

Unauthorized Strikes

Here and in England

THE STRIKE of the engine and train crews in Southern California, following so closely upon the recent walk-out of the shopmen in different parts of the country, strikingly emphasizes a peculiar feature in present world economics—a similarity of labor unrest here and in other countries—especially England. In Great Britain, there have been a number of strikes, among which may be mentioned: One on the part of the train crews of the electric lines out of London, one on the part of the engine crews of the London & North Eastern concerning an eye test, and, most important of the three, a strike of the coal miners in Yorkshire. These strikes all have had closely paralleling characteristics, especially in their absolute disregard of the public welfare, the manner in which they have been carried out against the wishes of the national labor union leaders and in the fact that the men concerned in them have represented, not ill-organized trades characterized by a predominance of the radical element, but the most highly skilled and best educated workmen and what are presumed to be the best organized unions.

These strikes are only a few of the many that have occurred in all lines of industry and form only a small part of the labor difficulties following the war. They stand out from among the other labor disturbances in a number of ways, and, looking at them from another point of view, it is apparent that there must be some reason for such similar disturbances 3,000 to 6,000 miles apart.

In both countries, the strikes in question have taken place under government control, spiking, incidentally, the old argument that such occurrences do not take place under such conditions. They have all occurred at a time when the unions have been negotiating with their governments for higher wages, shorter hours and better or different working conditions. In most of them, although the local bodies went out at a critical time in the negotiations, the strikes have related to questions under consideration by the government. In both England and the United States, the national leaders of the unions which struck have been working in favor of new plans for the control of their industries; in the case of the railwaymen here, for the Plumb Plan; in the case of the railwaymen in England, for the Transport Bill; in the case of the Yorkshire coal miners for the nationalization of the coal mines as recommended by the Sankey Commission.

It also happens that in both countries, the railwaymen, and in England, the miners, have for some time been in an exceedingly strong position before their governments and for a time at least have easily had the upper hand. They have secured nearly all they have asked of the government in the way of better wages and shorter hours, and no one will claim that their demands have been modest.

Besides all this, the strikes have occurred under most disagreeable conditions, and, as has been noted above, with absolute disregard of the public welfare. We are familiar with the difficulties on this side of the ocean. It is worth noting, however, that the strike on the electric lines out of London took place in the worst kind of weather, and hundreds of thousands of London's workers had to walk to work in deep slush, and this during the severe epidemic of influenza. In Yorkshire, on the other hand, in a local strike concerning piece rate scales, not only did the miners go out, but they also withdrew the pump men and stationery engine operators. Some pits were flooded and destroyed just as the mines around Lens were, and more would have been had not the navy sent men in to man the pumps. Coal production in the Yorkshire district was cut off to the extent of 115,000 tons daily. Many factories at Sheffield and Leeds had to close down with resulting unemployment. The train service was threatened and, last but by no means least, the strike took place while strong agitation was going on

to emphasize the fear that Britain would fall from its pre-eminent position as an exporter because of a general shortage of coal supply.

From this brief outline it is apparent that the leaders in organized labor on both sides of the ocean are either following a parallel course or are being made to follow a parallel course. Inconsistent as it may seem, we are inclined to believe that they are doing both. They have demanded and received so much from their respective governments—whether the governments have been willing or not, is not the question—that they have gotten to the point where they are not afraid to demand almost anything. On the other hand, their actions and their apparent disregard of the people's welfare have been imparted to the rank and file, thereby encouraging such radicals as will always be found in even the most conservative organizations. By their actions they have thus been trying to kill the goose that lays the golden eggs. They are alienating the good-will of the public, which is the last judge in a democratic country, and they are even hurting themselves as well as their unions by the lack of discipline which has been too evident in the several disturbances.

Whether they yet realize these facts or whether they want to realize them is a question. We have heard too many statements of late on the part of the national leaders that they might be unable to forestall unauthorized strikes on the part of local bodies if such is not made thus and so, to be willing to believe that they want to realize the true state of affairs. Even the strongest advocates of labor unionism must regret this present tendency, and as for the public, it will stand much, but it always succeeds in finally fixing a reasonable limit.

Hard Work by Railway Officers

THE STRIKES of shop employees of the railways which occurred recently in various parts of the country are over. The men returned to work under pressure of the officers of their unions because President Wilson announced no action would be taken on their demands for higher wages until they did so. But the effects of the strikes on several railways will be felt for a long time. The only way in which it was made possible for several important lines to maintain operation was by the officers, from the highest to the lowest ranks, putting in as many hours a day as they could stand, doing not only the work for which their salaries were paid but also work for which the striking shopmen ordinarily were paid. Employees in other branches of the service would give little or no help because this would have been in violation of the rules of the unions. In not a few cases even the shop foremen, who are now largely organized, refused to do any work ordinarily done by the employees. The officers labored so hard, so skillfully and so effectively, however, that while train service on numerous railways had to be curtailed, no road had entirely to suspend operation, and the inconvenience and loss to railway patrons was kept at the lowest possible minimum. The officers of the railways repeatedly have been accused by the leaders of the railway brotherhoods of having "laid down" under government operation. It has been asserted by labor leaders—in spite of the fact that railway employees have received large advances in wages while many of the higher officers have had their salaries cut—that "the same men who built up the surpluses under private management created the deficits under government management." W. G. McAdoo has testified, however, to the loyalty and ability which railway officers showed during the war, and Mr. McAdoo's testimony, and the loyalty and energy railway officers displayed during the recent shop strikes, are the best answer to the charges of the labor leaders. The officers have not been given a 50 per cent increase in salaries, or an eight-hour day, or

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time and a half for overtime, but they have had their consciences to keep on good terms with and the traditions of their class to maintain, and they have done so under very trying and discouraging conditions and through both good and evil report. The government and public owe them much—how much, the government and public do not realize.

President Wilson Opposes Increases in Railway Wages

PRESIDENT WILSON has refused to grant the demand of the railway shop employees for a large advance in wages. He has given them a general increase of four cents an hour and to certain classes some larger increases. All these increases are made, however, to remove inequalities deemed to exist in the present wage scales, and they do not give the shop employees more than about one-fourth of what they asked for. In announcing these increases, the President made a statement to the representatives of the shop employees, and also issued an appeal to the public and to railway employees, which apparently have great significance. His utterances clearly indicate that he has decided to make no further substantial advances in railway wages under government operation.

The claims of the shop employees were based partly on wages paid to other classes of railway employees, partly on wages paid to similar classes of workmen in other industries and partly on the increase in the cost of living. Director General Hines in a letter to the President stated that his own investigations showed that the average wage paid to the principal metal trades in private industries on May 15, 1919, was probably not more than three cents in excess of the 68-cent rate being paid to the railroad shop employees. Therefore, the advance of four cents makes the wages of the railway shop employees slightly higher than those of workmen in the principal metal trades.

As to the increase in the cost of living since before the war began in Europe, it probably cannot be shown as to the railway shop employees, and it certainly cannot be shown as to railway employees in general, that the advances in their wages have not kept pace with the increase in the cost of living.

The results of all the investigations which have been made indicate that the increase in the cost of living during the five years since the war in Europe began has been approximately 80 per cent. The Industrial Commission of the State of New York recently published a report of an investigation regarding the advance in retail food prices from June, 1914, to March, 1919. This showed that the average price of foods in March, 1919, was 77 per cent higher than in June, 1914. The Bureau of Labor Statistics has estimated the increase in the cost of living since the war started at 80 per cent. The National Industrial Conference Board has estimated it at 71 per cent.

In the year ended June 30, 1914, the average earnings of a railroad employee were \$810. In the year ended on June 30, 1915, they were \$827. In January, 1919, the railways had 1,848,774 employees whose average earnings for the month were \$125. At this rate the average per employee per year would be \$1,500, but additional advances have been granted since then which made the average earnings of a railroad employee at least \$1,533 a year. Compared with 1915, therefore, the average increase in the earnings per employee is 85 per cent, while compared with 1914 the average increase is 89 per cent. These increases exceed the increases in the cost of living.

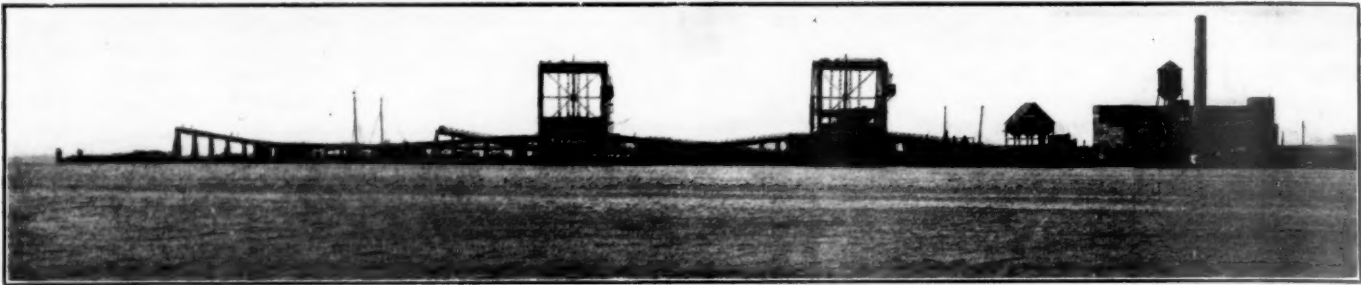
As nearly as can be estimated, railway wages are now running at the rate of \$2,834,600,000 per year. Director General Hines has estimated that if all the demands for advances in railway wages recently made should be granted the increase in the railroad pay roll would be \$800,000,000 a year. This would make it a total of \$3,634,600,000 per year.

For 1,848,774 employees this would make an average annual wage of \$1,965. The increase in the average earnings per employee over 1915, if this additional advance should be granted, would be 137 per cent, while the increase over 1914 would be 142 per cent. The wages of railroad employees already have increased more in proportion than the cost of living; and they are asking for increases which would make their total advances far exceed the increases in the cost of living.

The responsibility of determining what action shall be taken upon the demands of the employees rests, first, upon Director General Hines and, finally, upon President Wilson. The director general and President are not dealing with a war emergency now as they were in 1918. It is not necessary now, as it was then, to make large advances in wages to enable the railroads to get and keep enough employees for efficient operation. It is not necessary now to maintain uninterrupted operation as a war measure. The only questions to be considered are what the employees are entitled to and how much it is worth while to give them to avoid a strike.

The President has decided that they are not entitled to a general advance in wages at this time. It seems not improbable that President Wilson's virtual announcement that no substantial general advance in wages will be granted will result in a general railroad strike. The older railway labor brotherhoods, which formerly were conservative, have passed into the control of men who are as radical as the Russian Bolsheviks and who are drunken with the idea of their power. Their advocacy of the Plumb plan, which is nothing but the Russian soviet plan, shows how radical these men have become. But the danger of a strike is without the slightest validity as an argument for a general advance in wages. Either the employees are entitled to higher wages or they are not. If they are entitled to them they ought to have them. If they are not entitled to them they ought not to be given them even if it is certain that in that case they will strike. If the employees will strike now for an advance in wages to which they are not entitled, they will strike a year from now or two years from now for advances in wages to which they are not entitled. Therefore, to give them an advance in wages would be merely postponing the evil day of the strike and meantime paying an exorbitant price for the postponement.

President Wilson's statement to the shop employees and also his statement to the public were conciliatory and even appealing in tone. He asked for a truce to labor disputes both on the railroads and in other lines of industry until business conditions can be restored to normal. The attitude assumed by the president to the shopmen's demands indicates, however, that, while his tone is conciliatory, he has made up his mind as to what he is going to do. Now, everybody knows that when the President has made up his mind he is hard to change. His friends call a certain marked trait of his character "firmness" and his enemies call it "stubbornness," but everybody knows that he has it. If, therefore, there should be a general strike while the railroads are under government control, there is good reason to assume that the President would use all the power and resources of the government to break it. In doing so he would have the support of an overwhelming majority of the public. A general railroad strike while the roads are in the hands of the government would be a strike against the government itself. If the strikers should win, this would demonstrate that they were stronger than the government. Whenever a particular element in the nation shows that it has become stronger than the government it has practically destroyed the government, or, rather, has become the real government itself. The American people are not yet ready to see their government destroyed. Therefore, there would be very little chance of a general railroad strike being successful. Let us hope that the leaders of the railway labor organizations will open their eyes and recognize this fact.



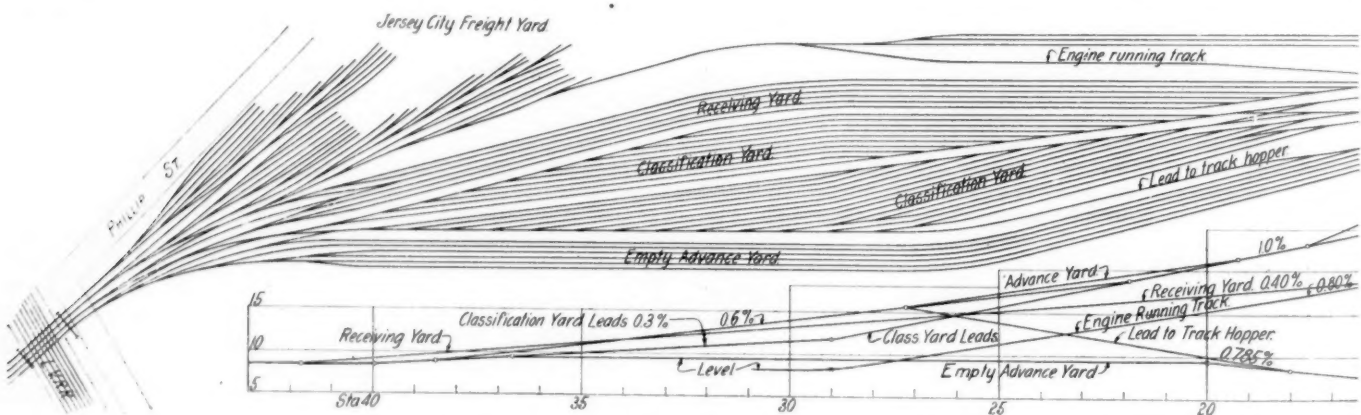
View of the Pier from the River Side

The Jersey Central Is Building a Modern Coal Pier

Includes Facilities for the Trans-shipment of Coal From Cars to Vessels and for the Coaling of Tugs

THE LARGEST COAL HANDLING TERMINAL in New York harbor is now under construction by the Central Railroad of New Jersey. When completed, the project will include a complete and interesting yard layout in which will be located a duplicate system of thawing sheds and a reinforced concrete pier on which two McMyler car dumpers will be located on the inshore end for the trans-shipment of coal from road cars to barges and schooners, together with a screenings pocket and conveyor and, on the offshore end, facilities for coaling tugs, steam lighters, etc., consisting of 42 reinforced concrete silos for the storage of tug coal with hoppers, conveyors and other apparatus incident thereto. A modern power house on the shore adjacent to the pier fur-

on this filled area that the embankments were placed in order to provide the necessary grades for the yard tracks. The area offshore from the bulkhead, consisting of about 2,000,000 sq. ft., has been dredged to a depth of 25 ft. and it is expected that it will at a later date be dredged to 30 ft. The material obtained from dredging operations, which consisted chiefly of pure sand, was used for the yard fill on the inshore section. In this last-mentioned operation a hydraulic dredge was engaged for a period of about 10 months, moving approximately 900,000 cu. yd. of material which was deposited in place by means of pipe lines which were run inshore from the dredge. During part of the operation the length of the pipe line exceeded 3,000 ft., the flow of sand making it pos-



Map and Profile of the West End of the Supporting Yard

nishes the necessary steam electric power and compressed air required for the operation of the pier and the thawing houses.

The project involves the placing of 800,000 cu. yd. of embankment in the yard and 10,700 cu. yd. of concrete on the pier, excluding the offshore end of the pier, which will be devoted to the tug coaling facilities and upon which work has not as yet been started; approximately 23 miles of track and a total expenditure in excess of \$3,000,000. The new facilities replace two old gravity-type coal piers having a combined capacity of about 1,750,000 tons of tidewater shipments and tug coal per year. The estimated capacity of the pier under construction is 6,000,000 tons of trans-shipment coal and 1,000,000 tons of tug coal per annum.

The site upon which the new terminal is located was originally open water of shallow depth. The section back of the bulkhead on which the yard is located had been filled in previously to a height of 6 ft. above mean tide and it was

sible to deliver the material to a maximum distance of 4,000 ft. from the bulkhead line. Material was discharged direct from the pipe lines to an elevation of 17 ft. above mean low water. The additional height of 8 ft., which was required in certain sections of the yard, was obtained by rehandling the dredged material with a steam shovel and dump car equipment, about 200,000 cu. yd. being handled in this manner. The yard fill has a top dressing of 8 in. of cinders under the ties. The cinders were secured from the locomotive terminal at Communipaw and were distributed by work trains in the usual manner.

The pier, when completed, will be 1,584 ft. long. The inshore section is 970 ft. in length with a maximum width of 184 ft. at the bulkhead line, narrowing to 66 ft. at the sea end of this section. The offshore section, on which the concrete silos will be located, will be 614 ft. in length and 66 ft. in width and will be used for the coaling of tugs.

At the present time the inshore section is practically completed and one dumper is now in operation. It is not expected that work on the offshore or tug-coaling section will be started before next spring.

The completed portion of the pier consists of a reinforced concrete deck and concrete foundations for the car dumpers, the supporting structure consisting of 4,400 creosoted pine

Steam will be supplied from the power house. Re-circulation of the air in the thawing houses is provided for.

The Car Dumpers

The car dumpers are similar in every respect except that the north dumper is equipped with facilities for screening the coal and with a screenings pocket and belt conveyor for

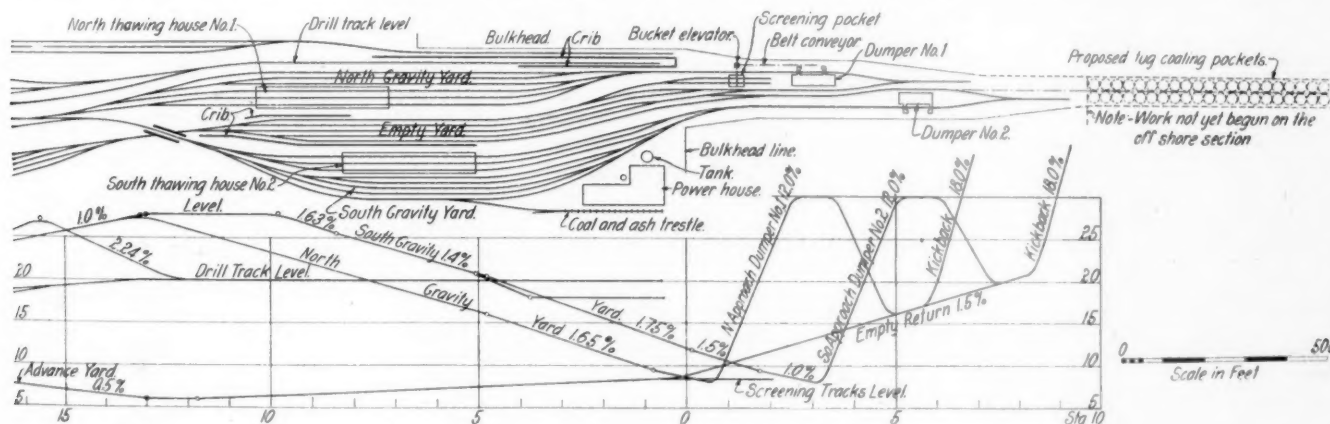


Looking Over the Yard During Construction

piles, averaging 70 ft. in length, which were driven by floating equipment. The track trestles over which the cars are delivered to the dumpers and returned to the empty yard are of reinforced concrete.

As may be seen on the plan, the layout for handling trans-

handling the screenings and the south dumper is equipped with a hopper on the side of the pier for handling the coal which will be stored in the silos on the tug-coaling section. While each dumper can handle up to 45 cars an hour, in view of other governing factors, such as the delivery of cars



Plan and Profile of the Pier and East End of the Supporting Yard

shipment coal is in duplicate, each dumper being served by a separate thawing house located in a separate gravity service yard. The thawing houses are each 320 ft. long by 51 ft. wide and are divided into three bays having a capacity of eight cars per bay, making a total of 24 cars per house, or 48 in all. These houses, which are now under construction, will consist of precast reinforced concrete units with insulated walls supported on creosoted piles driven through the sand fill by means of a water jet and air-operated hammers, the air being supplied from the compressor unit in the power house. Thawing of coal will be accomplished by forcing air heated to a temperature of about 180 deg. into contact with the bottoms and the sides of the cars. It is estimated that the average time required for the thawing of a car will be 2½ to 3 hr. The air heating apparatus will consist of steam engines, blowers, steam coils, recording thermometers, etc.

to the dumpers and the handling of the boats, it is estimated that each dumper will handle 25 cars per hr. over a period of hours. They are designed to handle cars of 100 tons capacity with a 10 per cent overload and of a length of 54 ft. over end sills. The cradle of the dumper, on which the car is placed by means of the Barney, is 30 ft. above mean tide and operates through a 27 ft. vertical lift.

Both steam and electric power are utilized in the operation of the dumpers, steam being used for the Barney and the cradle, while electricity is used for the pan, chute, screenings conveyor and the boat haulage. The coal handled on the north dumper may be screened if desired, as it is dumped from the car. By means of a belt conveyor and a bucket hoist, the screenings are returned to the screenings pocket for storage and shipment in cars to any point desired.

The trestles provided on the pier for carrying the ap-

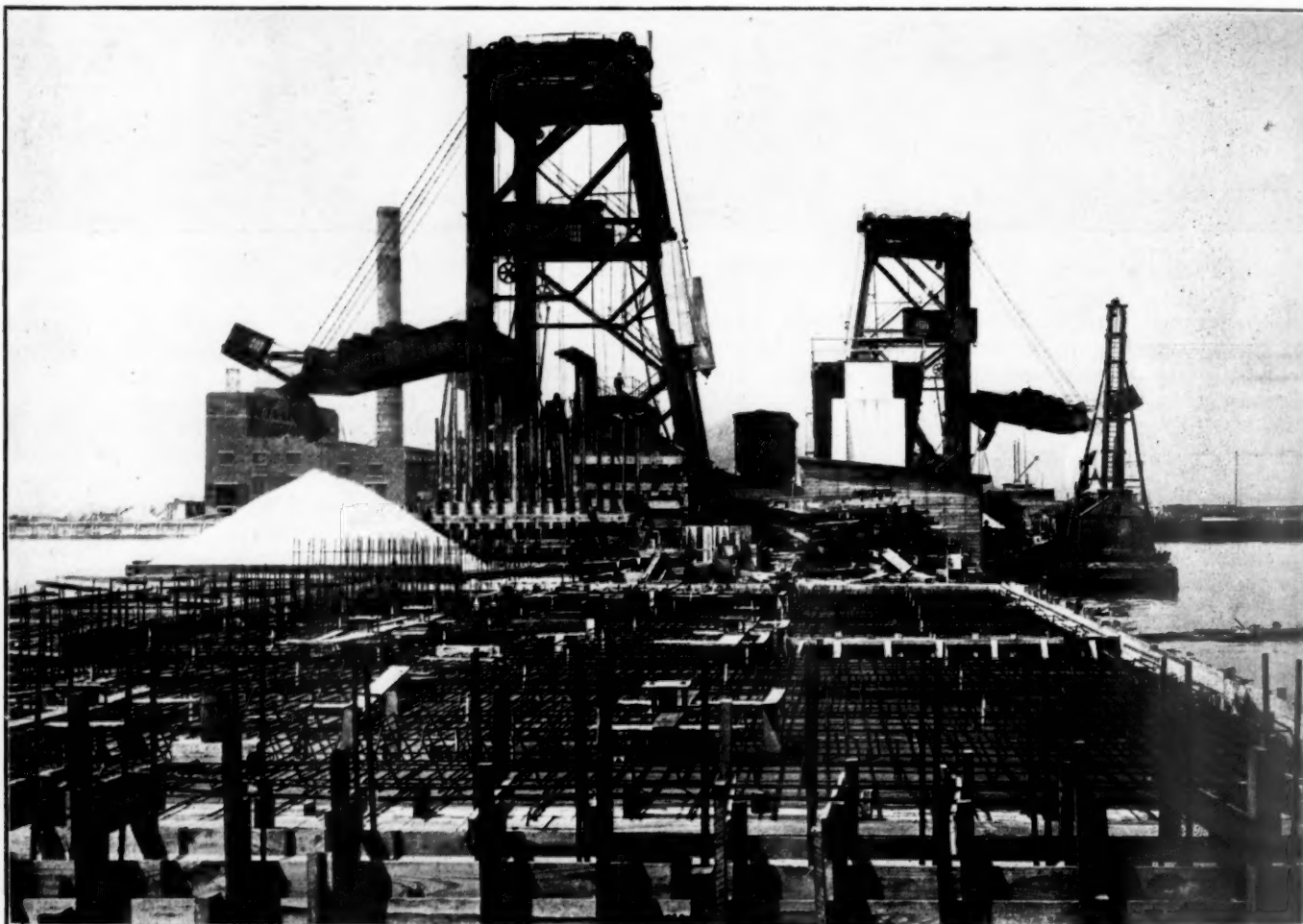
proach, run-off and kick-back tracks are of concrete throughout with the exception of the long spans immediately adjoining the dumpers, this type of construction being determined upon primarily because of the present high cost of structural steel. The concrete girders for the trestles except on the 12 per cent grade approaches were all pre-cast, the deck of the pier being utilized as space for the casting yard.

In the casting operations, material and labor were saved by casting the girders broadside down; when properly cured they were picked up by a locomotive crane running on a temporary track which closely followed the work as it progressed and were then set in their proper place. On the extreme end of the south kick-back track this method was impractical and floating equipment was utilized.

At the south dumper a hopper has been provided in the deck of the pier for handling coal destined for the offshore

concrete foundations which are in turn supported on piles. This type of construction was adopted because of the decreased dead load and the resultant economies which could be obtained in the foundations. For its insulating properties gypsum was used in the roof which is flat and made up of pre-cast slabs covered with Johns-Manville asbestos roofing. The slabs were placed by a "Jim Crow" and are secured to the steel members in the usual way. The power house stack, which is 150 ft. high with an inside diameter of 9 ft. 4 in. at the bottom, was constructed of radial bricks.

The equipment consists of four batteries of Babcock & Wilcox boilers of 500 hp. each or a total of 2,000 hp. Provision has been made for two additional batteries of 500 hp. each. The boilers are equipped with Roney automatic stokers which supply coal to the boilers from overhead coal bunkers constructed of structural steel and concrete, having a



A View of the Pier During Construction

facilities. By this arrangement coal passing over this dumper may be loaded into vessels alongside the pier or discharged into the hopper from which it is transported by means of a series of belt feeders to the main belt which will extend to the offshore end of the pier. For emergency use a track hopper in the south return track, discharging onto the cross conveyor, has been provided. By this means continuous operation of the offshore facilities is ensured even in the event that the south dumper is temporarily out of service.

The Power House

In the design of the power units built in connection with this improvement provision has been made for possible further terminal developments. The house is of steel frame construction with 6 in. hollow tile curtain walls resting on

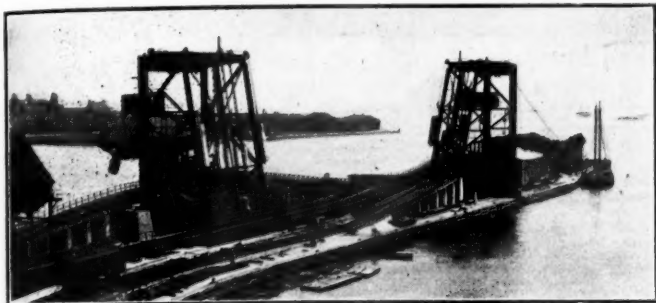
capacity of 1,200 tons. The coal is placed in the bunkers by means of a bucket elevator which receives the coal from a track hopper provided in a trestle adjacent to the house. From the elevators the coal is discharged onto a shuttle conveyor which in turn discharges into any of the bunkers.

A basement under the boilers provides space for a narrow gage track on which small ash buckets are operated, the ashes being dumped into the cars which are pushed by hand to the north end of the building where, by means of an electric hoist, they are elevated and dumped into a concrete ash storage hopper located over the coal supply track. At convenient times the hopper is emptied into cars, a storage capacity in the hopper being provided of about 200 cu. yd. of ashes.

The engine room equipment consists of an Ingersoll-Rand

air compressor having a capacity of 2,500 cu. ft. of free air per min., and two 300 kw. General Electric rotary converters which with their complementary transformers are used to convert the 2,200 volt alternating current supplied from the company's power house at Communipaw to 550 volt direct current used on the pier.

The air is used in the empty yard for train line purposes



Looking Over the Coal Dumpers Towards Ellis Island

and in the yard and on the pier for general repair and utility purposes. The maximum demand for electric power will be taken care of by one of the converters, the other being spare for emergency use. Electric operation is provided at the

As may be seen by reference to the general plan of the layout, the horizontal distance available for the service yard is limited to less than one mile by two grade crossings with the Lehigh Valley on the west and the bulkhead on the east. The difficulties of this constricted location have been overcome to a remarkable extent in the design of the yard and track facilities by the adoption of left-hand operation and other interesting expedients.

The receiving yard to the north of the layout consists of six tracks having capacities ranging from 50 to 65 cars. In operation the coal trains will pull into this yard, the locomotive finding its way to the engine house by means of the engine running track to the extreme north of the layout, connecting with the tracks of the main terminal yard. The receiving tracks are all laid on a 0.4 per cent grade ascending in the direction of traffic. At the east throat of the receiving yard a drill track approximately 1,000 ft. long is provided on a level grade. By means of this track the cars are drilled out of the receiving yard and pushed back over a hump having an approach grade of 2.24 per cent and a descending or accelerating grade of 2 per cent to the classification yard leads which are laid on a 1 per cent descending grade for a distance of 1,140 ft. where the grade flattens to 0.3 per cent, still descending. The classification facilities are arranged in two parts, a north unit consisting of 10 tracks with capacities ranging from 23 to 26 cars, and a south unit containing 10



Looking Inshore From the Dumpers Towards the Power House and Yard

dumpers for the pan, the telescopic chute, the boat haulage and the screenings conveyor. The installation is also designed to care for the offshore operation including the 54-in. belt conveyor for future tug boat coaling facilities.

A concrete tunnel from the power house part way out on the inshore end of the pier is provided for steam, water and air lines. An underground conduit system is also provided for power, lighting and telephones.

tracks, the capacities being 21 cars for each of 9 of the tracks, and 23 cars for the remaining track. The grades of the tracks in the classification yard units range from 0.6 per cent for the outside tracks to 0.3 per cent for the inside tracks, all grades descending in the direction of classification.

To the south of the classification tracks is a loaded advance yard containing six tracks with capacities ranging from 15 cars to 21 cars each. All of these tracks are laid on a

0.732 per cent ascending grade in the direction of traffic.

The advance yard is separated from the empty advance yard by a lead track to the track hopper for emergency use in connection with the conveyor to the offshore facilities of the pier. The empty advance yard consists of six tracks with capacities ranging from 60 to 65 cars. These six tracks are on a level grade through the yard proper, the approach grade being 0.5 per cent ascending and the departing grade 0.3 per cent descending.

As stated previously the coal handling facilities on the pier are in duplicate and each car dumper is fed by a gravity yard, the two being separated by an empty yard serving the two dumpers. Including the tracks passing through the thawing houses, the north gravity yard consists of six tracks having a total of 115-cars capacity, while the south gravity yard consists of eight tracks with total capacity for 130 cars. The empty yard consists of five tracks with a total capacity for 96 cars.

The grades of the tracks in the north gravity yard are 1.4 per cent at the west end, increasing to 1.645 per cent at the east throat. In the south gravity yard somewhat sharper grades were installed, being 1.63 per cent at the west end and 1.75 per cent at the east. The tracks in the empty yard are



A Concrete Tunnel Is Provided for Steam, Air and Water Lines

all laid on a 0.215 per cent grade descending in the direction of traffic.

In spite of the natural difficulties presented by the site, flexible operation of the facilities is afforded by the installation of a diamond crossover between the leads to the two units of the classification yard, by means of which either car dumper may be served from either classification unit. Again the loaded advance yard with its entrance from the west ensures the operation of either dumper in the possible event that egress from the classification units is temporarily cut off. These movements as may be seen by reference to

the map, are made possible by carrying the lead track between the empty yard tracks and the empty advance yard under the approach track to the south gravity yard. In other words, a car may be received in the usual way in the receiving yard, drilled into either of the classification yard units and passed on from either of the units to either of the dumpers and out over the kick-back tracks and the empty yard to the empty advance yard or it may be placed in the loaded advance yard and run over either dumper and out as before.

The approach tracks to the car dumpers are laid on 12 per cent ascending grades for both units. The grade of the run-off track from the north dumper is 11 per cent and from



A View of the North Dumper, Taken from the Kickback

the south dumper is 8 per cent. Eighteen per cent grades have been installed on both kick-back tracks.

The improvement was planned by and constructed under the direction of the engineering department of the railroad; A. E. Owen chief engineer, A. M. Zabriskie principal assistant engineer.

Resolutions declaring that the Indiana State Chamber of Commerce is opposed to the Plumb plan for government ownership and tripartite operation of the railroads were adopted at a special meeting recently of the board of governors and directors of the organization. The stand taken by the Indiana State Chamber of Commerce is outlined in the following paragraph from the letter written to senators and congressmen as a result of the resolution:

"They are strongly opposed to the so-called Plumb bill as proposed by the brotherhoods, and especially so in view of the action taken by the same brotherhoods on the Adamson measure in 1916. They believe that labor should have fair wages and good conditions of work. They are opposed to government ownership because it stifles initiative, destroys efficiency, and substitutes political influence for wise regulation. They urge that the brotherhoods be given a fair hearing, but that the same fairness be accorded to organized farmers (the backbone of America), and that bond holders and stock holders, as well as the officers of the roads, be also given a fair hearing."

The Restoration of Railway Development*

Purposes of Railway Legislation, Conditions in the Railway Supply Industries and Legislative Proposals

By Alba B. Johnson
President Railway Business Association

REPRESENTATIONS of these business men are those of a special element speaking from its own point of view. They believe they desire nothing that is not in the public interest. National prosperity is their prosperity. Nevertheless, those for whom I speak offer testimony only about matters which concern or afflict them in their occupation. Nor have we any detailed plan. We rather emphasize certain objects which we hope Congress will seek to accomplish through whatever plan it may adopt.

The purposes of which we ask your consideration can be stated in one sentence. We favor a prescription by Congress that rates and fares shall be such as will yield revenue sufficient for adequate maintenance and development of transportation, and a lodgment of the authority and the duty to promote such adequate maintenance and development in federal agencies each adapted to its respective task.

Conditions in the Railway Supply Industries

Railway buying for nearly a decade has shown two distinct changes from conditions previously existing.

On the one hand the total amount of material consumed in additions and betterments during a given period has decreased rather than increased. It would be superfluous to repeat here the familiar figures as to provision of track, motive power and car capacity. The slowdown in development of terminal facilities other than track is also well known. In the long run this has had the effect of restraining the growth of railway supply industries, limiting the opportunities of employment in them and retarding the progress of communities where railway goods are made.

On the other hand, at the same time that the aggregate quantity of industrial output for transportation purposes in a given period has exhibited this backward tendency, there has been a marked drift in the direction of instability. Large purchasing has come to be concentrated in periods of general business activity, whereas in times of general depression the railroads have drawn their purse-strings tight and waited for resumption of traffic and earnings.

Now, if there is one thing that the Railway Business Association has endeavored year after year to make clear it is this—that we would not desire and would not favor

superfluous or excessive railway purchases for the purpose of keeping these supply industries busy. Waste retards national prosperity; and, I may say again, national prosperity is our prosperity.

What we ask you to consider in regard to the volume of purchases through a given period is that their amount measures our national growth; that during many years down to about 1910 the inventors and developers of railway appliances proceeded on the assumption that the United States

would continue to develop its natural resources and to open up territory not yet accessible. They calculated future railroad needs by the yardstick of past consumption.

This was regarded as a warrantable basis of forecast because the undeveloped regions within our continental domain comprised still a vast empire containing untold riches—agricultural, forest and mineral. They hoped and believed that the time when a halt would be called on internal development of this wonderful new country was far beyond their lifetime. What warning had they to the contrary? Was there any decision, either formal or informal, to stop opening up new areas and to slow down the development of older regions?

If there had been a formal decision, where was it made and who made it? Had Congress ever enacted legislation of which the declared purpose was to arrest railway

improvement and extension? Had any committee of Congress or any President recommended or even considered such a course?

Had there been any consensus of public opinion that the time had come to withdraw encouragement for capital to go on giving the American people closer communication with one another and new access to the wilderness? On the contrary.

Farmers were clamoring to be brought nearer to market. Consumers of food, clothing and fuel, users of dwellings and furniture were shouting from the housetops their demands that new sources of supply be created and a reduction made in the cost of living.

The voice of labor was beseeching that measures be found for that stabilization of employment in industry which results from the creation of new centers of population where the products of labor might find new markets.

Chambers of commerce were establishing bureaus to at-



A. B. Johnson

*Abstract of statement before House Committee on Interstate and Foreign Commerce in August 25, 1919.

tract new factories and enlarge old ones, and calling upon the railroads for improved terminals and other facilities.

There was nothing to indicate that the people were content with the national development thus far accomplished; but there were innumerable signs that they desired and expected a continuation of pioneering and settlement of the rich regions still awaiting communication.

Railway supply men, therefore, 10 years ago went ahead equipping themselves to perform what they supposed was the highly important and universally desired function of getting the railroads ready for future traffic needs and equipping themselves on a scale proportioned to the continuance of past ratios of railroad growth.

Without formal or informal notice or declaration railroad construction all but ceased, and we had our plants and our organizations on our hands. What is done is done. Our thoughts are of the future. Industrial managers in this field are trustees for their employees and for their stockholders.

Their course from now on must be shaped by their impression of the federal purpose. They await a decision one way or the other. They inquire whether or not the country intends to continue internal development; whether it looks to them for trustworthy provision of railway appliances and for progress in the introduction of economical and efficient devices. They think they ought to ascertain if possible what is their responsibility and their opportunity. They believe they should receive authoritative assurance whether their co-operation is desired and whether they may prudently go forward with projects.

Instability of Railway Purchases

Consider next, if you please, the instability of purchases. A large part of the time those who have plants and organizations established to serve railway needs have had either feast or famine. We have not the slightest doubt that financial panics have been obviated by the Federal Reserve Bank system. There was no panic in 1914, yet in that year commerce and industry in the United States were in dire distress, destined to be relieved only by war contracts, because the railroads were confining their purchases to the barest necessities.

A common remark is that distress in the railway supply field is merely an incident in a general depression, and that at a time when everybody else is suffering it is unreasonable for the makers of railway accessories to complain of unemployment.

Unemployment is only tolerable when it is unavoidable. For unemployment in these particular industries there is, in these days, very little valid excuse.

What grinds us is the needlessness of it. General depression is not a time in which to stop building railroad track and equipment, to leave off repairing railroad plant, but a time to begin. Can anybody suggest a juncture when labor and material will be cheaper than when nobody else wants them except the railroad and the railroad supply maker? Is it difficult to grasp the fact that by keeping those industries going steadily year after year the total output for all the years can be produced with a smaller investment in plant, a smaller overhead for interest and organization, less waste through idleness?

Is it not clear that the very railway plant itself has to be substantially larger to carry the peak-of-load when that load is further burdened with the vast, heavy and bulky tonnage required for the fabrication of track, cars and locomotives and their maintenance?

That is what has been happening. The first inkling of a slump in earnings brought curtailment of buying. When in the next active period general merchandise was crying for cars, power and tracks, the railroads would come into the market frantically bidding against one another for

deliveries, demanding that factories work overtime for them and crowding with their own consignments the facilities whose very insufficiency this avalanche of company freight was hysterically intended to relieve.

The greatest railroad genius America has produced, the late E. H. Harriman, pursued the well-settled policy of liberal buying in depressions with the two-fold motive of relieving the depression and of obtaining goods at bargain prices. A similar policy has been characteristic of the Pennsylvania system. The principle was coming to be understood and gradually brought into application in the period before 1906.

Why do not the railroads buy steadily instead of spasmodically? The answer is that the railroads generally speaking since 1908 have lived from hand to mouth, not knowing one year where the next year's bond interest was coming from. Net income was of such proportions that investors declined stock and took bonds, but even these in reduced quantities.

The manager saw the mortgage advancing across the disc of the property like the shadow of the moon across the face of the sun. Dividends can be passed. Interest cannot be passed. With interest staring him out of countenance, he refrained from purchases involving future commitments. Sufficient unto the day was the evil thereof.

Mechanical Progress Devitalized

I wonder if all the members of your committee are aware of the extent to which that hand-to-mouth policy has devitalized the forces formerly serving the country in the mechanical progress of transportation. I hope you share the conviction of engineers that very great improvements in the direction of safety, economy and efficiency are destined to be developed if conditions are propitious. I believe that the further progress in the development of the science of transportation will be as great or greater in the next 25 years than it has been in the last 25.

In an appendix I give some account of the former absorption of inventors and managers in the testing and demonstration of new railway devices and methods and the division of their time and thought now and undoubtedly in the future between the railroad customer and other customers; such impairment of the former concentration having begun with the determination to avoid the disasters which have come from having the eggs all in one basket and spread still further with the war-time experience in turning from one kind of product to another.

The spirit in which we are commenting upon the pending legislation is not that of a lot of people who are sitting with their hands folded and sulking. We ask no alms. Competition is free and the railway supply manufacturers can take and are taking their chances in a more general field. Your attention, however, is invited to the unquestionable fact that if at a given time there is only so much demand, and those for whom I speak are invading fields which they formerly left to others, we may be able to keep our men employed, but that will not save from idleness the employees of those other concerns who would be making goods if we were engrossed in producing railroad accessories. The degree in which those forces can be tempted again into speculative investment of money, time and energy for shop and field experiment in the transportation interest will depend upon the inspiration given by your legislation, by the discussion accompanying it and by the spirit in which the government proceeds to administer it.

Ultimate Consumers of the Public Wrath

Now what was the primary cause behind the financial condition of the roads which led to that hand-to-mouth policy? Our diagnosis was that errors in railway management and in railway financiering had given occasion for public

resentment, and that when this found vent in governmental measures these were conceived more in anger than in wisdom.

We are fond of quoting an epigram made by one of the founders of our association, a veteran maker of car wheels, Thomas A. Griffin, of Chicago, who has for some years now been gathered to his fathers. Standing amid the havoc of smokeless chimneys, bread lines and the general misery of industrial paralysis, with weeping wives beseeching audience that they might implore reinstatement for their breadwinners, Mr. Griffin made a gesture to include himself with those unemployed, and said: "We are the ultimate consumers of the public wrath."

As the years have gone by we have had the satisfaction of hailing a new era. The railway financier proclaims higher standards. The railway manager more fully realizes his obligation to the public and his responsibility as a diplomat. The public official perceives in the popular element a less insistent demand for punitive measures, a more anxious solicitude for encouragement to transportation enterprises. I wish Mr. Griffin were here to enjoy the bright promise of a sound solution which is vouchsafed to us by the attitude of Senators and Representatives in the present Congress.

He would know that if in the future wage-earners are to be turned away from the factory gates because of needless cessation of railroad orders they will be ultimate consumers not of the public wrath but of cold-blooded governmental unwisdom; and I do not see how he could listen to the questions which have been propounded to witnesses during these hearings or converse with leaders in the Senate who are giving concurrent consideration to this great problem, without feeling confident that the seven million persons dependent upon earnings in the railway supply industries and the many more millions in agriculture, trade, professions and other occupations who in turn depend upon them, will be consumers neither of wrath nor of unwisdom but of governmental sagacity.

Proposals for Remedial Legislation

If it were not for fear that silence on certain aspects might be taken to imply opposition, we would state our recommendations in three paragraphs. Lest we be misunderstood, we precede these three with another, enumerating various proposals which have our approval, but which we do not consider especially appropriate for detailed discussion by our industry as such. That enumeration is as follows:

We favor corporate ownership of railways and their permanent return to private management; permitting and facilitating under federal sanction their consolidation into strong competitive systems; bringing railway corporations under federal jurisdiction; federal regulation of railway security issues; adjustment of railway labor conditions by a joint board of employers and employees, disagreements to be adjudicated by the federal authority which determines the amount of revenue to be yielded by rates and fares; accumulation of surplus railway income in good years in order that in poor years railway maintenance, additions and betterments may be carried on vigorously.

All of these recommendations in one form or another are contained in plans submitted or to be submitted to you by others, who are especially qualified to explain them.

Following are the recommendations which we deem essential to be especially emphasized by us:

We favor a federal statutory rule of which the effect will be that rates and fares of the railways within each traffic section shall be sufficient to yield the average railway in the group in the average year its necessary expenses and to provide the credit basis for adequate facilities.

We favor a federal board to promote articulation of transportation by rail, water and highway; to keep informed of

the public need for facilities and service in the several traffic sections and of carriers' projects for improvements and extensions; to regulate security issues; to estimate the amount of revenue prescribed under whatever rule for adequacy of revenue Congress may adopt, and the further amounts, if any, which may prove necessary to attract the capital required, and to certify such estimate as the amount of revenue in each traffic section necessary in the public interest to be yielded by rates and fares authorized by the Interstate Commerce Commission.

We favor giving the Interstate Commerce Commission by statute the authority to regulate maximum and minimum rates and fares of all instrumentalities of interstate commerce in the development of just, reasonable and non-discriminatory rate structures, and the duty so to adjust tariffs that they will produce as near as may be in each traffic section the amount of revenue certified as necessary in the public interest.

Most manufacturers are not lawyers. Yet their work may be profoundly affected by legislation. The country looks to those whom I represent or to others who may come into that field to attain reliability in quality and dealings, to acquire resources so that they are ready to meet normal demand, to engage in spirited rivalry so that cost of production may be reduced, to maintain shops for the testing and development of mechanical inventions—the instruments of safety, efficiency and economy in transportation.

Communities of wage-earners and their dependents expect of these manufacturers that when they create works and induce people to locate in a town, with all the mercantile, professional and other population which gathers round such a fountain of wages, there is something more behind the enterprise than guesswork. They assume that men who pretend to such standing and who can command from hard-headed investors the capital for such an undertaking have made due and diligent inquiry regarding all the essential conditions necessary to be ascertained before permitting thousands of people to remove thither and make commitments and investments of a hundred varieties.

So that when we come before you recommending that one of the purposes of the act which you are to frame shall be what I have just read to you, it is with no pretense of legal lore or legislative competence, but it is after years of systematic study of the laws as they are and of the consequence which they seem to contain as affecting us. As well as we could we have analyzed these laws ourselves. We have maintained an association for their concerted consideration. We have caused specialists to study them for us.

Our analysts informed us that the interstate commerce act requires carriers to furnish adequate facilities and every individual rate to be reasonable. I think the time has come to make confession at least for myself that when large-scale rate cases were before the Interstate Commerce Commission the grave anxiety of members of our association led to the assumption of an attitude toward the commission for which there was no warrant in the law.

Our association, I am proud to say, under the wise leadership of my predecessor as its president, George A. Post, refrained from beginning to end from any expression of opinion with regard to any particular rate schedule filed with the commission for its sanction. We merely suggested to our friends in other associations the propriety of letting it be known to the commission that whatever decision it might find in the public interest would meet with their ungrudging acquiescence.

Nevertheless, there was running through our participation in those discussions the assumption that the commission under the law had the authority and the duty of sanctioning rate structures which as a whole would yield revenue bearing a relation to the financial needs of the carriers.

Such jurisdiction was strenuously denied to the day of

his death by the late Commissioner Judson C. Clements. It was unanimously denied by the commission in the first great Eastern rate advance case, though they proceeded to infer authority which they said was not in the law, and denied advances on the ground that the carriers did not need additional revenue.

Shortcoming That of Law

Citizens protesting against advances argued that the law, in prescribing that "any rate" should be reasonable, gave no warrant for consideration of a large number of rates in their aggregate effect upon total revenue. They insisted that in a large-scale case where millions of tariffs were involved, it was incumbent upon the proponents of a general advance to justify the reasonableness of each one of these millions of rates by the tests which the commission under its traditional practice would apply if only one rate were in question.

If it is true that nowhere in the act as it stands or any act of Congress the commission is authorized and directed to regulate rates with a view to adequacy of maintenance and of development of facilities and service, then I for one desire at this time to say that it seems to me that the shortcoming which there has been in the regulation of rates this past decade is to be laid at the door of Congress and not at the door of the Interstate Commerce Commission.

What of the future? You began these hearings with the detailed consideration of House Bill No. 4378. On page 23 of the committee print the following words appear in italics indicating that they are new matter:

"The commission in reaching its conclusion as to the justness and reasonableness of any rate, fare, charge, classification, regulation, or practice, shall take into consideration the cost of labor and other operating costs in so far as they become material in any case under investigation."

In response to one of those questions which the chairman has been putting to witnesses and which have contained so much encouragement to us, Commissioner Clark stated that the commission would have no objection to adding to and inserting in the above sentence the words "and the cost of capital."

Suppose you enact this provision in that amended form. Obviously you would not have given the commission the responsibility for the financial results of its regulation. You would still be saying "any rate." You still would be inviting citizens to demand that each one of a million rates be justified by a formal proof of reasonableness.

Is it the intention to change the old act in that respect? If so, why not say so in the text? Having so many times been urged to say it, if now you decline to do this, the implication will be that you have deliberately omitted from the act the declaration that the revenue derived from the rates as a whole shall be adequate. If you do omit that declaration it will be taken as a signal by the manufacturers for whom I speak that the government shrinks from acknowledging its responsibility and has no definite purpose of discharging it.

Examine once more the words "shall take into consideration." Is it intended to convey the thought that the statute is defining the purpose of Congress for the guidance of the commission? If not, then why put it in? If yes, then why not explicitly specify what the purpose is? If you shall enact authority for the commission merely to "consider" a rate or even all the rates without setting up a standard by which they are to be considered, you have instructed your administrative arm to make your policy for you, or in other words to determine what in their judgment is in the public interest.

If any deputy of Congress is to decide in any matter what is in the public interest without any indication from Congress of a test or standard, why not all deputies of Congress

in any and all matters, and where will delegation stop? Why not proclaim forthwith that our boasted government of laws has been discarded and in its place there has been set up a government of men?

"Shall take into consideration." Where in that phrase are we to find hope? The only sense in which it could be interpreted to promise restoration of railway credit and resumption of railway development would be this—that it commanded rates and fares to be adequate for operations and credit. If it does not mean that, why say it at all? If it is intended to mean that, why not express it so that nobody can have any doubt?

Bill 4378 is not the only current plan in which an attempt is made to define what the regulatory body shall consider in making rates. From among such plans the Railway Business Association refrains from a choice. This much we earnestly urge upon you—whatever rule for rate-making you adopt, whether a prescription of adequacy, or a rate per cent of return, or something else, clinch it by saying somewhere in the statute that the rates and fares of all the roads in any sectional group shall be sufficient to yield necessary expenses and to provide a credit basis for adequate facilities and development.

In our correspondence and conversations with business men these 10 years we have found in the main three avowed reasons for hesitancy about swallowing that pill.

Some merely could not bear the thought of making railroad rates adequate. The word gave them goose-flesh. When invited to declare for such adequacy they inquired, "Does this mean an advance in rates?" To this the natural reply was that if anywhere at any time rates were too low they would certainly have to be raised in order to make them adequate. To this we used commonly to hear it rejoined that no rate anywhere ever could be too low. As you gentlemen are aware, that attitude nowadays is pretty generally stuffed and mounted in the museum along with the dodo and ichthyosaurus. It died contemplating one of the most useless and dismal of institutions—a national railroad system that cannot carry the nation's tonnage and hence chokes industry, and that is powerless to build into new areas of agricultural and mineral production, and hence droops helpless while the cost of living soars.

"Shall"

The second misgiving was that somehow it would be an indignity to the commission if the legislature which created it should announce what it was created to do. There were those who predicted, "Congress will never say 'shall' to the commission." We have lived to see the commission itself write a bill in which the word "shall" is embodied—"shall take into consideration."

Competition in Economies

The third misgiving was not so amenable to easy solution. This was the obstacle of the strong road and its weak competitor both taking the same rates. Toward that phase of the problem the attitude of the Railway Business Association is distinctively occupational. Numerous solutions are offered. One is consolidation.

We favor this, but as developers of mechanical improvement we earnestly hope that the independent corporations will be as numerous as is consistent with their financial stability. Centralization tends to over-standardization and to bureaucracy. It narrows the field of railway managers to whom one after another a new device or method can be offered until somebody is found willing to afford a demonstration. Another solution, either as an alternative or as a supplement to consolidation, is a contingent fund drawn from excess income and employed according to the various plans to tide over lean years or to aid the weak roads or both.

The Railway Business Association volunteers no comments upon these proposals, and its occupational attitude merely takes the form of a hope that whatever is done the condition will be such that the unprogressive road will suffer for its indolence and the progressive road enjoy the reward of its enterprise. Cobwebs would gather in the departments where railway appliances are developed if no railroad had anything to gain by trying new devices or anything to lose by ignoring opportunities for efficiency and economy. So we use the general expression with respect to revenue that it should be sufficient for "the average railway in the group in the average year."

Rule for Rate-Making

Summarizing, then, our observations regarding the rule for rate-making, we urge upon you:

(a) Explicit authority for the regulatory agency or agencies to test the reasonableness of rates as a whole by the sufficiency of the total revenue which they produce.

(b) Prescription by statute that rates and fares shall be such as to yield the average railway in the average year its necessary expenses and to provide the credit basis for adequate facilities, including reasonably rapid settlement of new territory.

In numberless forms Congress might accomplish these two things. As business men we have no pride of authorship. We don't care where the ultimate language originates. We do think that the language when found ought to be so clear and unmistakable that we may know at once whether Congress is giving confidence or dread to those who would like to devote themselves to mechanical progress in transportation, and hope or despair to the wageworkers whom they employ or might employ.

How Much Revenue Will Be Required?

We do not see how anyone can predict what return upon the investment would in the future be necessary in order to attract new capital in the amounts which may be required.

The proposal of the National Transportation Conference, the quality of whose contribution to the clarification of the whole problem it would be difficult to exaggerate, has been explained to you by Paul M. Warburg as follows:

"It has been the consensus of opinion of members of the conference that if private capital is to enter freely upon the venture of further developing the roads, and if railroad credit is to be re-established on a solid basis of genuine confidence, that 6 per cent on the final valuation plus a modest share in earnings in excess of this percentage would constitute the minimum required."

Mr. Warburg does not itemize the elements which led the conference to hit upon the figure 6, although he explicitly speaks of this as the very least that would accomplish the result, and he suggests a decennial revision of the figure. The text of the conference bill itself uses the expression "not less than" 6 per cent.

Is it not evident that in the minds of its framers this plan, having fixed a minimum rate of return below which the regulatory authority must not go, and establishing contingent funds, supported by a grant of Congress, to insure the return up to 6 per cent, leaves undetermined a zone of income in excess of 6 per cent which the Interstate Commerce Commission is neither forbidden nor commanded to permit, and concerning which the statute would give it no guidance whatever?

To our practical minds, and in view of the responsibility which rests upon us, this undetermined zone appears to place upon the Interstate Commerce Commission a discretion by no means accurately described as computation by a mathematical formula. "Not less than 6 per cent." But how much more than 6 per cent, and by what standard determined?

So far as we are aware, nobody has estimated for you the magnitude of the improvements to existing lines which the public interest requires to be made within any specified period in the future. If you were in possession of such estimates, who shall say how far short they would fall of the needs which may actually become manifest? Even if you had the power of divination to make approximate guesses at the requirements expressed in physical units and in units of work performed, what human faculty can be brought to bear in the year of grace 1919 to compute the cost of carrying out such projects?

Vast Capital Demanded

Additions, betterments and extensions are made with new capital. Construction of a new stretch of mileage, whether by an existing system or by a new one, involves investment of capital equal to 100 per cent of the cost of road, structures and rolling stock. The same is true of additions to the property of existing roads. Betterments of existing lines are provided 100 per cent from investment less the value of property scrapped or replaced.

If a locomotive requires repairs which can be made in a few days at a roundhouse, the cost of those repairs is an operating expense. If a locomotive is so in need of overhauling that it is put into the shops, it will be repaired and also brought up to date by the application of new devices; and the cost will be divided between replacement of old value, which is paid for as operating expense, and creation of new value, which is paid for as investment.

Expenditures vast in the aggregate for each region are to be provided from new investment. Nobody knows what labor and materials will cost. How, then, can anybody predict within many millions a year how much capital would have to be raised to carry out projects approved?

If you do not know how much capital you must raise, how can you possibly know what rate of return you must pay in order to obtain it? Supply and demand govern the rates for money as they govern all other prices. The more securities you put out the higher goes the rate.

Some have said that with a fixed rate in the statute investors would regard railway issues as more secure and that this stabilization would enable the roads to command the money at lower rates than heretofore. But this is already discounted in fixing the figure at 6 per cent as the return for the average road. Mr. Warburg points out that 6 per cent is substantially less than investors can obtain in other industries.

Again, there is the complication of reducing the preponderance of bonds over stock. The reason why bonds have been salable and stock not is that railway income available for dividends was insufficient to make a market for stock. Sooner or later that problem must be grappled with. Is there any other way to solve it than by increasing income until a market is made? Six per cent means, say, 4 and a decimal on bonds and 7 or 8 on stock. Will stock of the average road sell for those figures in the quantities that would be necessary if projects were carried out on a large scale and if substantially more than 40 per cent of the new issues are to be stock?

The truth is we do not know what average rate of return will be necessary in order to develop the railroads.

Would 6 Per Cent Pass and Stand?

Nobody knows whether Congress will enact the 6 per cent, and if it did whether subsequent Congresses would let that figure stand.

Suppose this committee and the Senate committee as well were to report 6 per cent—what assurance is there that when the measure reached the respective branches the 6 would not be pared down?

What I am now saying is not to be taken as indicating

any view whatever as to whether the statute should or should not prescribe a minimum of 6 per cent return. What we beg of you to consider is that if you do embody a rate per cent in the bill which you report you shall in addition recognize the undetermined zone of return which may prove necessary above the rate prescribed as the minimum.

Obviously if the statutory rate is made less than 6 the undetermined zone will be by so much the wider. Suppose, moreover, the sixty-sixth Congress says 6. What will the sixty-seventh Congress say? Does anybody expect any Congress to feel itself bound to maintain a rate merely because an earlier Congress fixed it and perhaps provided for decennial revisions? You will invite disappointment if you expect to peg public sentiment at 6 per cent by making the rate 6 per cent in the statute. Laws are created by sentiment, not sentiment by laws.

Your minimum rate of return will not restore development.

Development can only be restored through the undetermined zone; and it will be restored or not accordingly as public sentiment as to interest rates is or is not brought to see and to keep seeing that fact. There is no way of insuring it. No solemn pronouncement and no hocus pocus can put the result beyond jeopardy of public apathy or hostility.

There is only one route to our destination—genuine and continuous public acquiescence in the purpose and definite assignment of responsibility first to the power that appoints, and secondly to the functionaries appointed for exercise of judgment and courage.

Threatened Destruction of Judicial Mechanism

The functions of appraising the carriers' projects and sanctioning security issues involve an assumption of responsibility inseparable from the responsibility of estimating and prescribing the amount of revenue necessary for the projects approved, and impossible of performance by the Interstate Commerce Commission without destroying its character as a tribunal for adjudication of competing citizens' and competing communities' rights.

We assume that Congress will regard the question of the agency of regulation as one of the most important aspects of the whole problem. Touching that aspect, the Railway Business Association will speak only from the practical experience of the industry which comprises its membership. From that point of view we ask you to ponder well at this critical juncture an element in regulation that may be condensed into the word "justice." You may feel duly appreciative of this. I venture to express the fear that you unconsciously take for granted a matter which requires the most continuous and assiduous solicitude.

What was the cause of the public wrath? Was it big grievances—alleged lootings, alleged overcapitalization? Not primarily. It was little things—rebates, discriminations. These sometimes reached large proportions when prominent concerns were the beneficiaries, but the sensitive state of the public mind in which stories of these conspicuous incidents aggravated the inflammation was due to the everyday contact of the general run of the citizens with the railroads. The individual was told and believed that his competitor was getting a lower rate than he was. The community was angry because a rival trade center was favored. A had a pass while B paid or walked. All this was the foundation of the public wrath.

This in reality is the thing of which the railway supply industry has been and is today the ultimate consumer to a degree even greater than the owners or managers of the railroads themselves. Even the first moderate decline in railroad earnings, which might entail little if any effect upon the income of officers or owners, immediately involves drastic curtailment of purchases and unemployment in the supply industries, greatly out of proportion to the reduction of rail-

way earnings. We are here to implore you for protection so far as Congress can give it against such an experience in the future for us and our employees.

Today the citizen has his contact with the railroad, he has his differences, his complaints, but if his emotion reaches the stage of wrath this is directed not against the railroad but against the public authority which regulates the railroad—an authority which the citizens themselves established and which they can change at will.

So far as federal regulation is concerned, they do not desire to change it; for in these disagreements of theirs with the carriers over shipments and rates and practices and regulations they long ago came to believe that they were getting or could get a square deal from an impartial umpire. I wish to say in this presence that I know of no governmental tribunal here or anywhere, now or at any time more highly esteemed for integrity, for conscientious devotion to the litigation which comes before it, for freedom from prejudice in adjudicating controversies between competitors, than the Interstate Commerce Commission.

High Prestige of the Commission

The commission for 32 years has been dealing with this problem. No breath of scandal has ever blown upon its work or its personnel. In its adjudication of differences between users or groups of users of railways no disappointed litigant has ever been heard to insinuate that the decision was affected by fear or favor. When reappointment of one of the present incumbents was before the Senate it was emphasized by those who doubted his fitness that they questioned not his personal character, but the correctness of his economic views.

From time to time in performance of its statutory duties the commission has encountered situations which led to a request for particular authority not previously bestowed. Congress in most instances has promptly complied. Where such a request has been denied or postponed reason has been found in objection to the proposition in view, or the method proposed, never in distrust of the commission as a court for determination of citizens' rights. We believe that Congress in thus giving its confidence to the commission has accurately reflected public opinion throughout the nation.

For five days at the beginning of these hearings you listened to the chairman of the legislative committee of the commission explain the bill which the commission advocates. You asked him many questions. He impressed me as the spokesman for a body dealing with a highly intricate and special problem, meeting its practical phases in a practical way, capable of explaining the reasons for the modifications proposed in the law and deserving of the confidence with which Congress and the country look to it for the highly important judicial functions falling within its purview.

The development of the commission and its performance day by day comprise a chapter in human progress. They demonstrate the capacity of the American people to substitute reason and arbitrament for passion and strife. Our success in this undertaking is a triumph in self-government.

It is our apprehension that the system which I have endeavored to describe is in grave danger.

Powerful groups are urging Congress to superimpose upon the present statutory duties of the commission certain entirely new and wholly incompatible duties. The common purpose of these several plans is to introduce into the governmental policy an element of encouragement to railroad development. The cry has gone up on every hand for better railroads and more railroads. You are asked to create the new duty of promoting adequacy of facilities and the opening up of new areas. Such a declaration of policy to be made effective must be delegated by the law-making body to an administrative arm—an agency.

Is it the object that national growth shall be both promoted and anticipated by provision of transportation facilities? Is it the expectation that representatives of the government will counsel with railway men and waterway men and hard-surface-road men and with users of all these instrumentalities everywhere, planning for the future? Is it in your minds that the reasonable public need for enlarged terminals or multiple tracking or extension into new territory shall be quickly and practically judged and promptly sanctioned and that carriers undertaking such projects shall be provided with the means of carrying them vigorously to completion?

If this is the purpose and the representative of the government in that field is to be the Interstate Commerce Commission, then what is proposed is to transform the commissioners from judges into men of action.

It may be that you could not effect such a transformation. If you tried but it proved that you could not, this would be a gigantic calamity in itself, as I shall endeavor to maintain in a few moments; but if you could and did transform these judges into men of action what would become of the machinery of justice which it has taken us 32 years to construct and develop?

By the word action is meant getting things done—appraising projects, determining methods and bringing results. Getting things done is a function concerning which as business men we are qualified to speak. We choose our executives according to our lights and place upon them the responsibility of ways and means and results.

We expect them to make mistakes. We look for a certain degree of false motion and waste of money, inseparable from pioneer and creative work. We do not regard the performance as setting up precedent for future guidance but largely as containing warnings. We cannot require that in his relations with other people the executive as he hurries along will necessarily conduct himself with the primary aim of being a paragon of manners, a model of forbearance, or a professor of ethical philosophy. He uses the self-restraint which all responsible citizens use in a civilized community where there is law and order and a decent respect for the rights of others; but his specialty is getting things done.

Action Called for by the Nation

Congress, which is the board of directors of the nation, is about to undertake a project—the restoration of railroad development. Congress is about to assign supervision of that task to an agent. Those who have elected Congress as their board of directors will not be satisfied with a report that postponement of the result desired has been accomplished politely or learnedly or according to tradition.

What the nation requires is that each year's end will record additions to mileage at least larger than were made by a nation of 32,000,000 before the Civil War. They require some progress and some completion of terminal and double-track projects, construction of motive power and cars somewhere near that before 1906, a year in which industry was shackled and foodstuffs rotted because there was not enough rolling stock to carry material to or product from the factory or to convey grain and livestock to market or seaboard. The country wants results.

Suppose Congress appoints as its agent for that task the Interstate Commerce Commission. I suppose nobody will assert that any one of the present commissioners has ever had occasion to demonstrate by performance the possession of the special qualifications universally exacted of an executive who is charged with a work of creation. Each of them would doubtless classify himself in this respect with the man who was asked whether he could read Greek. He answered, "I don't know, I have never tried."

During these hearings, in fact, Commissioner Clark has

said that the bill advocated by the commission would require an enlargement of that body. I understand he has special reference to the regulation of security issues. Whether the commission is to be enlarged or not, vacancies in it will from time to time occur. There is one such vacancy at this moment. In the long run, appointments would doubtless be made of both types, the judicial and the executive. The injection of one or two men of action into the commission would certainly and immediately precipitate conflict.

Here you would have on the one side a man or men whose temperament, instinct, training and habit it is to be anxious lest any project may not have money enough and hence to provide an ample margin for contingencies. On the other you would have men whose temperament, instinct, training and habit it is to be anxious lest any project have too much money and hence to hold it down to the minimum.

Public Opinion and Rate Decisions

What would be the outcome? In the past the commission has had the protection that hedges about a judicial body. You will not have forgotten that in one of the early large-scale rate-advance cases the commission complained of what it called the campaign of publicity. Having had laid before it for determination the question how much earnings a group of carriers ought to have, which is the same thing as saying how much or how good work those carriers should be permitted to perform, the commission was in position to rebuke concerted expression of the public desire on the ground that the proceeding was judicial and that public discussion ought not to be employed for the exertion of influence upon the judgment of the commissioners.

Utterly different will be the situation if Congress shall now decree that railroads are to grow and assign the task of stimulating that growth to the commission.

I need not elaborate to a committee of Congress on the distinction between a statutory provision which defines misdemeanors with prescription of penalty and a statute which sets up a standard for the instruction of an administrative department in the carrying out of a public project.

If a shipper solicits a rebate and a railroad officer gives it to him the process by which these lawbreakers are brought to book is one with which public opinion and public discussions should have nothing to do. If the citizens of Philadelphia or of any other city can unite in advocating a unification of terminals nothing ought to stand in the way of their getting all the allies they can to convince the authorities that the thing should be done and carriers' revenues adjusted accordingly.

Does it take the eye of a prophet to see what would happen within a commission made up partly of builders and partly of judges? At the first important difference of judgment over the amount of earnings necessary in the public interest the tribunal would be rent in twain and in a few hours two factions in the country would begin the struggle for control. This, mark you, is a judicial body. It adjudicates citizens' rights. It has made peace in the United States where once there was conflict, and it is relied upon to continue the calm and even-handed administration of justice.

And here we have the proposal that Congress knowingly and wilfully shall toss into the court of interstate transportation a patented and guaranteed occasion for disputation and bitterness, with the people of the United States surrounding the combatants tier above tier and yelling like the local mob at a national party convention.

If any one suspects that the commission under the proposed conditions would somehow be immune from schism, I commend to him an incident which has already happened. At the time, Congress never had decreed that rates and fares should be adequate for any specified purpose whatever or even that the commission must or might consider rates as a whole as affecting total earnings. Just what occurred I

do not pretend to know. The commission guards its confidences well. But the record is eloquent and the deduction is obvious.

It was the western rate-advance case of 1915. The commission had constructed a majority report, stating what advances would be permitted. Two commissioners dissented on the ground that the grant was insufficient. What the majority replied to their arguments is not of record. But one of the dissenters, Mr. Daniels, in his opinion said:

A Punitive Body

"While it is nowhere explicitly stated in the majority report, I am unable to escape the conviction that the reluctance to find that increased rates have been more generally justified is largely rooted in an unwillingness to find that the revenues of the carriers as a whole are smaller than is demanded in the public interests, and also in the belief that the financial exigencies of many of the carriers are traceable to financial maladministration, and that if due economy and integrity had been observed the difficulty over the attested decline in revenues would have been readily surmounted. . . . It would appear that . . . the time had at last come to take a discriminating view of the effect of refusing rate increases otherwise just and reasonable because of a widespread resentment at evils perpetrated in the past by dishonest or designing railroad officers or their allied financiers. Such a policy visits in large measure the same penalty upon the proprietors of a railway conducted with integrity and honesty as upon the luckless shareholders of a looted road. In either case those who suffer from its effects are not those who have profited by the wrongs perpetrated in the past. It is, therefore, suggested that the appropriate remedy is the prosecution and punishment of the individual offenders, not the continual withholding of adequate rates to the carriers as a whole. In bank management this distinction has in large measure been recognized. . . . Similarly in considering propositions involving more or less general increase of rates, the question should be judged in the light of the carriers' revenues as a whole, and in the light of the reasonableness or unreasonableness of particular rates proposed, and neither prejudiced nor complicated by considerations of individual instances of corporate mismanagement."

Out of those earnest, almost passionate fragments can you not reconstruct the scene which Commissioner Daniels refrains from describing? If this is what he felt impelled to impart to the public, what did he say to his colleagues in the shelter of executive session? What did they reply? It is immaterial. Their official acts convey the information which we require.

That commission at that hour was not a court adjudicating citizens' rights, but a legislature determining the policy of a nation; not a tribunal applying law to a particular case, but a Congress enacting the law itself.

Verily, it is not alone against dangers yet to be created that we warn you, but against perpetuation of a present danger. Great as is the necessity for avoiding the imposition of legislative functions upon the commission, an important purpose is the removal of that present cause of discord, the struggle within the commission for and against readjustments designed primarily to promote transportation development.

No More Rate-Making by Men Who Get Things Done

Bring on the combat for control of the commission and you destroy it as a court, for during the conflict you will turn the bench into a shambles, and when it is over, and the advocates of development have prevailed, as they will, you will have turned over the administration of justice to men whose specialty is getting things done; and if you want to know what that means ask some shippers how they like

the rates that were made by Mr. McAdoo. Let us profit from at least one lesson taught us by the war. Let us never again have railroad rates made by men whose primary job is getting things done.

You cannot authorize the Interstate Commerce Commission to determine how much revenue is needed and escape a demoralization of the mechanism for justice which we now have. You cannot place upon the commission the responsibility for fixing the amount of revenue and escape a revival of agitation against the roads, which would be accused as the beneficiaries of ruthless rate-making.

Separate Board Imperative for Promoting Development

Even if for the sake of getting adequate facilities, you were willing to sacrifice the judicial system so laboriously built up, about the most circuitous and slow-moving method, as well as the most doubtful in point of ultimate effectiveness, would be an attempt to transform the Interstate Commerce Commission into a body of action.

As an exhibit convincing on that point we can hardly choose better than to examine the testimony of Commissioner Clark at the beginning of these hearings. I have given you my impression of the judicial body which could produce a witness inspiring so much confidence. From practical experience on the bench the commissioners through him offered detailed amendments to the law as it stands.

I now give you another impression. This second impression was one of incredulous amazement that any group of eight men having to do with transportation in the United States could have lived and worked through these last few years and come before you without apparently the faintest realization that the country is confronted with a railroad problem requiring heroic measures.

The chairman opened the proceedings by enumerating the aspects which would have attention. First of all, he said:

"One of the great problems we are to consider is the matter of credits, and credits involve the matter of rates."

Where in the whole course of Judge Clark's analysis of the bill is there a word indicating recognition by him or by the commission of the existence of a great problem of credits, involving rates? The suggestion has appeared in some of the transportation journals that the bill drawn by the commission and Mr. Clark's comments upon it form only one part of a comprehensive scheme in which the credit problem will be dealt with separately. The commissioner, indeed, in his introductory remarks pointed out that as explained by the chairman the purpose of the hearing covered principles as well as details, whereas the bill was confined to amendments, but he gave no intimation of any supplementary recommendations to come from the commission. So far as was decided that body stood upon its annual report for 1918 and its special report to Congress dated December 31, afterwards explained in detail to the Senate committee in the sixty-fifth Congress.

A Delusive Hope

The special report catalogued a series of objects of legislation. Upon first perusing that document I was startled to note what seemed to be an indirect declaration for adequacy of revenues. It began characteristically enough, declaring for "limitation of railroad construction to the necessities and convenience of the government and the public"—a delicious bit of humor, as if superfluous railroad construction were a pressing national peril which must head any list of evils to be abated; but immediately following were these strange and unaccustomed words:

"and assuring construction to the point of these limitations."

My enthusiasm was warm while it survived. I read along through the statement of reasons underlying the pro-

posed limitation of railway construction, and came upon the statement of the thought underlying the assurance of construction to the point of limitation, which was this:

"that a railroad having been permitted, by public franchise, and the powers that go with it, to build into a given territory, it should be required to properly serve and develop that territory. And in developed territory it is important to provide for the extension of short branch or spur lines or spur tracks to communities and industries that should be served and that can furnish sufficient traffic to justify such extension."

Not a word about enabling the carrier to improve or extend; only power to require him to do so.

In the commission's bill the power to require construction is qualified by the following proviso: "That the commission shall find that such provision of facilities or extension is reasonably necessary in the interest of public convenience and will not impair the ability of the carrier to perform its duty to the public." In other words, the carrier must construct if it can spare the funds, but not even in case of public necessity for construction will the commission be directed by law to supply the carrier with the increased earnings necessary for the credit basis.

Except for this one false alarm, I have been unable to find a solitary phrase in any of the statements of the commission acknowledging that railway development needs encouragement and that a change in governmental policy is essential to that end.

Consolidations would be permitted under the commission's bill. Mr. Clark in his testimony mentioned as an advantage of this economies in use of railway plant. He did not mention the rate problem of the strong and the weak road, which for months has commanded the attention of all the leading railway economists, and for which a solution proposed by many of them is consolidation.

The bill confers upon the commission jurisdiction over minimum as well as maximum rates. Some of the advocates of the commission as the agency for restoring railway credit have predicted that if granted this new power they would do everything necessary in that direction. You remember what Judge Clark told you about that provision. The farthest he went was to point out that "the competition between carriers or the insistence of one carrier upon having its own way results in an unnecessary and unwarranted depletion of the revenues of all the carriers in a given situation."

He gave no endorsement to the idea that the revenue derived from the correction of such situation would build in the next year miles of track, freight cars and locomotives in capacity approaching the annual provision which was maintained in former years of vigorous development.

After he had analyzed the provisions of the bill section by section to the end, Judge Clark added the most startling statement that has come from the commission on the subject. In less than five minutes he did away with the need for any other evidence that a new and independent agency is required for the rehabilitation of railway credit. He turned back to a new provision which in its order he had passed without comment. I have previously quoted the provision to you in another connection.

No Problem, No Remedy, No Hope

If nothing which preceded had contained cause for astonishment occasion enough was afforded by his having been able to glance down that page, with that new matter staring at him in italics out of the context, and regard it as so trivial as to require no explanation.

The words are as follows:

"The commission in reaching its conclusion as to the justness and reasonableness of any rate, fare charge, classification, regulation or practice shall take into consideration

the cost of labor and other operating costs in so far as they become material in any case under investigation."

Of that provision the commissioner said:

"I originally passed this by, but it seems desirable to comment on it a little. As a part of the statute, it develops the rule which the legislature contemplates shall be followed by the administrative tribunal."

And now mark what he says next:

"In actual practice it will not change the rule followed by the commission, because the commission has recognized that the necessary costs affect the net return."

The chairman then observed that the Traffic Club of Chicago had recommended the addition of the words "and the cost of capital," and asked the witness his views on that.

Judge Clark replied: "I think it would be entirely appropriate to include that, Mr. Chairman, because I cannot conceive of the commission ignoring it if it were pertinent and material to the issue."

The Chairman: "In view of the fact that you say the commission has always heretofore considered the cost of labor and operation—you have also considered the return on capital?"

Judge Clark: "Yes; we have considered the return on capital."

So here was a proceeding which began with a statement by the chairman that "One of the great problems we are to consider is the matter of credits, and credits involve the matter of rates"; a proceeding which followed with examination of a bill brought in by the commission purporting to require adequate rates and making the commission the agency for accomplishing such adequacy; a proceeding which then plunged to its anti-climax with an avowal by the representative of the commission that there is no great problem of rates in relation to credit, because the commission always has considered the return on capital, so that the new rule would not change its course in the least.

I submit, gentlemen, that the least eligible candidate you could find for the task of restoring railway development is a body which in the face of universal opinion here and throughout the country denies the existence of the problem and virtually promises to frustrate any attempt at a change of governmental attitude.

Men of Action for Getting Things Done

It is for these reasons that we advocate the creation of a Federal Transportation Board, which, having jurisdiction over security issues and hence over railway development, shall have the power that goes with the responsibility for results—the power of certifying to the commission the amount of revenue necessary to the public interest.

This would designate men of action for a task of getting things done. It would preserve this excellent and highly esteemed tribunal, the Interstate Commerce Commission, as a court to insure that in getting things done the men of action shall not ride rough shod over the citizens and communities who use the facilities.

Many of those who have made valuable contributions on various phases of the problem as a whole are yet to be converted into advocates of a Federal Transportation Board.

First, it is said that there is no support for such a board in the country.

If Senators and Representatives are as open-minded upon this aspect as they have given token of being on other aspects of the question, what validity is there to the argument that a recommendation should be withheld because they are not already in favor of it? If we knew that Congress favored a Federal Transportation Board it would be a waste of time for us to come and urge them to create it.

With regard to sentiment in the country evidence is accumulating. Our own association is a constituent member of

the Chamber of Commerce of the United States. One of the recommendations contained in the Chamber Referendum No. 28 was that a Federal Transportation Board be created. We conducted an internal poll among our members to determine how our association would vote. On the recommendation in question fewer than 5 per cent of those voting said "No" on that provision. All the constituent bodies in the Chamber throughout the country recorded a vote of 1,196 in favor to 245 opposed. The National Transportation Conference makes such a board the central piece of mechanism in its plan for rehabilitation of railway credit. The proposition is really just beginning to be explained to the public, and there is no reason whatever for dismissing the proposal as a project which has no chance of adoption and therefore is a futile feature of any program.

Another objection is that if such a board were to be created during the present administration the appointments made by the President would be of the same character as the appointments which he has made to the Interstate Commerce Commission. I hold no brief for the present chief executive, and happen to belong to another political party than his own, but the argument reduces itself to absurdity.

It is that citizens are willing to trust the commission, four of whose members were appointed by this same President, and which as a whole is practically organized and committed against any change of governmental policy, but are unwilling to trust a new board appointed by him, although the launching would be in the atmosphere and under the influence of a great constructive and non-partisan plan.

It is said in the third place that there is confusion and deadlock in co-ordinate tribunals. Amen and amen. The Railway Business Association is no advocate of co-ordinate authority. We desire to see the Interstate Commerce Commission supreme over the construction of rate schedules. We desire to see the Federal Transportation Board supreme over issuance of securities and over the amount of revenue necessary in the public interest.

With regret we have noticed that some of those who accept our idea of a certificate of public necessity for revenue would still leave with the commission some discretion as to whether it likes or not the estimate of the Federal Transportation Board. As well provide that the auditor of a commercial company be empowered to refuse to sign checks, if he believes that the purchasing authority has bought goods not needed by the company.

Weak and Strong Roads

The only other obstacle which has been specified to us is that the creation of a Federal Transportation Board would not solve the problem of the strong and weak road. The answer is that it would if it did and the Interstate Commerce Commission wouldn't if it didn't.

If your legislation shall provide a way of dealing with the problem of the strong and the weak road what possible difference can it make who is the agent for executing the plan provided that he is competent for the job and his instructions and power are in accordance with his responsibility?

What is involved is largely the exercise of business judgment. Without any moral obliquity and doubtless with the best intentions in the world, the temperament, training and environment of the Interstate Commerce Commission are all against that liberal provision of present earnings and surplus which a business executive insists upon as a margin of safety for future contingencies.

It is proposed that Congress shall so prescribe the duty and authority of the Federal Transportation Board that the President will have a perfectly clear definition of the qualifications of its members and will select his nominees accordingly.

To say that Congress cannot frame an authorization and

the American people cannot through their chief executive establish a competent agency to effectuate the national will is to assert fundamental pessimism concerning our American experiment in self-government. Your present deponent believes we are justified rather in a glowing optimism, and if there were no other warrant for that sentiment we believe it is to be found in the quest and discovery six years ago of the soundest banking and currency system anywhere in the world.

For Congress to enact a scheme sound and strong in every other detail and present it to the public as possessing the same finality as the federal reserve legislation of 1914, but designating the Interstate Commerce Commission as the agent of rehabilitation would be to settle nothing and accomplish nothing. It probably would mean government ownership in ten years if not in five, with all the evils which have attended that system wherever tried. We cannot believe you will take the risk.

Doings of the Railroad Administration

WASHINGTON, D. C.

SOME ADDITIONAL information regarding the number and compensation of railroad employees is likely to be made available as a result of a resolution proposed by Senator Cummins and passed by the Senate on August 21, calling on the director general to furnish to the Senate as soon as practicable the following information:

The number of employees of each class engaged on the class I railroads under federal control in the United States for each month from January to July, 1919, and also for the month of December, 1917; the amount of their compensation; the number of hours or days work; and the compensation per hour or per day for each of said months and for each class of employees, such as engineers, firemen, conductors, brakemen, shopmen, and each of the other classes as shown by the records of the Railroad Administration; also the percentage of change between December, 1917, and the last month of 1919 for which there are available records, both in the unit of compensation and in the average compensation per employee of each class; also to attach to the report on this resolution copies of all orders making advances in wages and of all schedules explanatory thereof.

This will make public some of the up-to-date statistics on wages which the Railroad Administration has been keeping to itself, but as it goes back only to 1917 it will show only the increases in wages made by the Railroad Administration, and not the full effect of the increases made during 1915, 1916 and 1917 by the railroad companies.

Contracts Executed

The Railroad Administration has executed compensation contracts with the Chicago, Indianapolis & Louisville, for \$1,620,000, the Texas & Pacific for \$4,107,432, and with the Pullman Company for \$11,750,000. A short line contract has also been executed with the Missouri Southern.

The Cleveland Railways Company has taken out \$10,110,000 insurance policy against "riot and civil commotion," paying a premium of \$37,110. The policy covers 90 per cent of the company's line and is written by four western insurance companies.

The total annual freight bill of the lumber industry is estimated at about \$215,000,000. Lumber and forest products furnish about 11 per cent of the total tonnage of the American railroads or about 215,000,000 tons yearly, according to Interstate Commerce Commission statistics. This total is greater than the movement of all agricultural products and is exceeded only by the tonnage of general manufactures and mine products.

President Calls a Halt on Wage Increases

Says Insistence on Unwise Demands at This Time Menace
Peace and Prosperity of the Country

WASHINGTON, D. C.

PRESIDENT WILSON and Director General Hines have decided that there shall be no new cycle of wage increases for railroad employees. This is on the ground that the increases already granted by the Railroad Administration and by the railroad companies during the two years preceding federal control have kept pace with or exceeded the increase in the cost of living up to date, and that further advances in railroad wages are not warranted by comparison with other wages, and would merely result in a further increase in the cost of living, which the government is now bending every effort to reduce.

"The way to re-establish the pre-war purchasing power of wages," Mr. Hines says, "is to reduce the cost of production, not to increase it."

Whether the decision would be accepted by the labor organizations, however, is still uncertain. The shop craft unions whose demands were directly involved, have formally rejected the offer of a small increase in wages by way of a readjustment and are taking a new strike vote.

The railroad shop employees who have been pressing their demands for higher wages since January, having received two increases in 1918, and who had just taken a vote authorizing their officers to call a strike unless their new demands were granted, were awarded an increase of 4 cents an hour to make up for the fact that they did not receive 10 hours' pay for 8 hours' work at the time other railway employees had their wages adjusted in that way, and some other minor adjustments, retroactive to May 1, for all employees who do not leave the service pending the completion and adoption of a national agreement with the shopmen's organizations.

The President's decision, based on a recommendation from Director General Hines, who had been in frequent conference with him on the subject, was communicated to the committee of 100 representing the shop craft unions affiliated with the American Federation of Labor at the White House on Monday, August 25. In his statement to the committee, and in another addressed to the public, the President also spoke indirectly to the other railroad labor organizations that either have presented or have been preparing demands for further wage increases, as well as to labor generally, when he said that questions of general wage increases ought to be postponed until the return of normal conditions, and, with undoubted reference to various strike votes now being taken, he added: "Demands unwisely made and passionately insisted upon at this time menace the peace and prosperity of the country as nothing else could, and thus contribute to bring about the very results which such demands are intended to remedy."

That his position with reference to the shopmen's demands, which represented the first effort to begin a new wage cycle for railroad employees, also applies to other demands was indicated in the President's statement that "the position which the government must in conscience take against general increases in wage levels while the present exceptional and temporary circumstances exist," will not preclude the Railroad Administration from considering claims by other classes of employees for readjustments intended to establish the proper relationship between various classes of employees. It was made unmistakably clear, however, that the President and the director general do not intend to be influenced by strike threats to grant any further general increases at this time except such as may result from effects to effect equalizations.

The President's statement also indicated that any decision as to increases in freight rates must also be postponed until more normal conditions are restored, on the ground that it is impossible at present to estimate the earning capacity of the railroads and that there is no certain basis for calculating what the increase in freight rates should be. Both he and Mr. Hines are anxious to concentrate every energy on the campaign to reduce the cost of living and are unwilling to take any step that will tend in the other direction by giving any excuse for further increases in prices.

Director General Hines and representatives of the divisions of operation and of labor of the Railroad Administration resumed negotiations with the representatives of the Railway Employees' Department of the American Federation of Labor, representing the shop crafts, on August 20, following the receipt of final information that the unauthorized strikes of shopmen on various roads had been concluded. Later in the day Mr. Hines went to the White House, and on Saturday, August 23, he again called on the President, giving him a complete report of his recommendations on which the President decided to take personal action. On Monday the shopmen's committee was called to the White House to receive the final decision from the President, and a copy of Mr. Hines' report, the President's statement to the shopmen and another statement to the public were given out. The public statement is as follows:

President Wilson's Statement to the Public

My Fellow Citizens:

A situation has arisen in connection with the administration of the railways which is of such general significance that I think it my duty to make a public statement concerning it, in order that the whole country may know what is involved.

The railroad shopmen have demanded a large increase in wages. They are now receiving 58, 63 and 68 cents per hour. They demand 85 cents per hour. This demand has been given careful and serious consideration by the board which was constituted by the Railroad Administration to adjust questions of wages, a board consisting of an equal number of representatives of employees and of the operating managers of the railroad companies. This board has been unable to come to an agreement, and it has therefore devolved upon the Director General of Railroads and myself to act upon the merits of the case.

The shopmen urge that they are entitled to higher wages because of the higher wages for the present received by men doing a similar work in shipyards, navy yards, and arsenals, as well as in a number of private industries, but I concur with the director general in thinking that there is no real basis of comparison between the settled employment afforded mechanics by the railroads under living conditions as various as the location and surroundings of the railway shops themselves and the fluctuating employment afforded in industries exceptionally and temporarily stimulated by the war and located almost without exception in industrial centers where the cost of living is highest.

The substantial argument which the shopmen urge is the very serious increase in the cost of living. This is a very potent argument indeed. But the fact is that the cost of living has certainly reached its peak, and will probably be lowered by the efforts which are now everywhere being concerted and carried out. It will certainly be lowered so soon

as there are settled conditions of production and of commerce; that is, so soon as the Treaty of Peace is ratified and in operation, and merchants, manufacturers, farmers, miners, all have a certain basis of calculation as to what their business will be and what the conditions will be under which it must be conducted. The demands of the shopmen, therefore, and all similar demands are in effect this: That we make increases in wages, which are likely to be permanent, in order to meet a temporary situation which will last nobody can certainly tell how long, but in all probability only for a limited time. Increases in wages will, moreover, certainly result in still further increasing the costs of production and, therefore, the cost of living, and we should only have to go through the same process again. Any substantial increase of wages in leading lines of industry at this time would utterly crush the general campaign which the government is waging, with energy, vigor and substantial hope of success, to reduce the high cost of living. And the increases in the cost of transportation which would necessarily result from increases in the wages of railway employees would more certainly and more immediately have that effect than any other enhanced wage costs. Only by keeping the cost of production on its present level, by increasing production, and by rigid economy and saving on the part of the people can we hope for large decreases in the burdensome cost of living which now weighs us down.

The director general of railroads and I have felt that a peculiar responsibility rests upon us, because in determining this question we are not studying the balance sheets of corporations merely, we are in effect determining the burden of taxation which must fall upon the people of the country in general. We are acting, not for private corporations, but in the name of the government and the public, and must assess our responsibility accordingly. For it is neither wise nor feasible to take care of increases in the wages of railroad employees at this time by increases in freight rates. It is impossible at this time, until peace has come and normal conditions are restored, to estimate what the earning capacity of the railroads will be when ordinary conditions return. There is no certain basis, therefore, for calculating what the increases of freight rates should be, and it is necessary, for the time being at any rate, to take care of all increases in the wages of railway employees through appropriations from the public treasury.

In such circumstances it seems clear to me, and I believe will seem clear to every thoughtful American, including the shopmen themselves when they have taken second thought, and to all wage earners of every kind, that we ought to postpone questions of this sort until normal conditions come again and we have the opportunity for certain calculation as to the relation between wages and the cost of living. It is the duty of every citizen of the country to insist upon a truce in such contests until intelligent settlements can be made, and made by peaceful and effective common counsel. I appeal to my fellow citizens of every employment to co-operate in insisting upon and maintaining such a truce, and to co-operate also in sustaining the government in what I conceive to be the only course which conscientious public servants can pursue. Demands unwisely made and passionately insisted upon at this time menace the peace and prosperity of the country as nothing else could, and thus contribute to bring about the very results which such demands are intended to remedy.

There is, however, one claim made by the railway shopmen which ought to be met. They claim that they are not enjoying the same advantages that other railway employees are enjoying because their wages are calculated upon a different basis. The wages of other railway employees are based upon the rule that they are to receive for eight hours' work the same pay they received for the longer workday that was the usual standard of the pre-war period. This

claim is, I am told, well founded; and I concur in the conclusion of the director general that the shopmen ought to be given the additional four cents an hour which the readjustment asked for will justify. There are certain other adjustments, also, pointed out in the report of the director general, which ought in fairness to be made, and which will be made.

Let me add, also, that the position which the government must in conscience take against general increases in wage levels while the present exceptional and temporary circumstances exist will of course not preclude the Railroad Administration from giving prompt and careful consideration to any claims that may be made by other classes of employees for readjustment believed to be proper to secure impartial treatment for all who work in the railway service.

In addressing the committee the President asked them to disregard the strike vote which had been received on August 24, and took occasion to try to calm their frequently expressed fears that the railroads would attempt to reduce wages after the return of the roads to private control. In this statement President Wilson said:

Statement by the President to Railway Employees'

Department of Federation of Labor

I request that you lay this critical matter before the men in a new light. The vote they have taken was upon the question whether they should insist upon the wage increase they were asking or consent to the submission of their claims to a new tribunal, to be constituted by new legislation. That question no longer has any life in it. Such legislation is not now in contemplation. I request that you ask the men to reconsider the whole matter in view of the following considerations, to which I ask their thoughtful attention as Americans, and which I hope that you will lay before them as I here state them.

We are face to face with a situation which is more likely to affect the happiness and prosperity, and even the life, of our people than the war itself. We have now got to do nothing less than bring our industries and our labor of every kind back to a normal basis after the greatest upheaval known to history, and the winter just ahead of us may bring suffering infinitely greater than the war brought upon us if we blunder or fail in the process. An admirable spirit of self-sacrifice, of patriotic devotion, and of community action guided and inspired us while the fighting was on. We shall need all these now, and need them in a heightened degree, if we are to accomplish the first tasks of peace. They are more difficult than the tasks of war—more complex, less easily understood—and require more intelligence, patience and sobriety. We mobilized our man power for the fighting, let us now mobilize our brain power and our consciences for the reconstruction. If we fail, it will mean national disaster. The primary first step is to increase production and facilitate transportation, so as to make up for the destruction wrought by the war, the terrible scarcities it created, and so as soon as possible relieve our people of the cruel burden of high prices. The railways are at the center of this whole process.

The government has taken up with all its energy the task of bringing the profiteer to book, making the stocks of necessities in the country available at lowered prices, stimulating production, and facilitating distribution, and very favorable results are already beginning to appear. There is reason to entertain the confident hope that substantial relief will result, and result in increasing measure. A general increase in the levels of wages would check and might defeat all this at its very beginning. Such increases would inevitably raise, not lower, the cost of living. Manufacturers and producers of every sort would have innumerable additional pretexts for increasing profits and all efforts to discover and defeat profiteering would be hopelessly confused. I believe that

the present efforts to reduce the cost of living will be successful, if no new elements of difficulty are thrown in the way, and I confidently count upon the men engaged in the service of the railways to assist, not obstruct. It is much more in their interest to do this than to insist upon wage increases which will undo everything the government attempts. They are good Americans, along with the rest of us, and may, I am sure, be counted on to see the point.

It goes without saying that if our efforts to bring the cost of living down should fail, after we have had time enough to establish either success or failure, it will of course be necessary to accept the higher cost of living as a permanent basis of adjustment, and railway wages should be readjusted along with the rest. All that I am now urging is, that we should not be guilty of the inexcusable inconsistency of making general increases in wages on the assumption that the present cost of living will be permanent at the very time we are trying with great confidence to reduce the cost of living and are able to say that it is actually beginning to fall.

I am aware that railway employees have a sense of insecurity as to the future of the railroads and have many misgivings as to whether their interests will be properly safeguarded when the present form of federal control has come to an end. No doubt it is in part this sense of uncertainty that prompts them to insist that their wage interests be adjusted now rather than under conditions which they cannot certainly foresee. But I do not think that their uneasiness is well grounded. I anticipate that legislation dealing with the future of the railroads will in explicit terms afford adequate protection for the interests of the employees of the roads; but, quite apart from that, it is clear that no legislation can make the railways other than what they are, a great public interest, and it is not likely that the President of the United States, whether in possession and control of the railroads or not, will lack opportunity or persuasive force to influence the decision of questions arising between the managers of the railroads and the railway employees. The employees may rest assured that, during my term of office, whether I am in actual possession of the railroads or not, I shall not fail to exert the full influence of the Executive to see that justice is done them.

I believe, therefore, that they may be justified in the confidence that hearty co-operation with the government now in its efforts to reduce the cost of living will by no means be prejudicial to their own interests, but will, on the contrary, prepare the way for more favorable and satisfactory relations in the future.

I confidently count on their co-operation in this time of national test and crisis.

Director General Hines' Report

Mr. Hines' report to the President, dated August 23, is as follows:

In view of the importance both to the railroad employees and to the public of the wage demands of the shop employees, and in view of the intimate relationship between that subject and the all-important subject of the cost of living, I feel it my duty to make this report to you for action by you if you wish to take personal action in regard to it.

The responsibility rests upon me to decide upon its merits the claim of the railroad shopmen for the following increases:

	Now receiving Cents	Requested Cents	Increase Cents
Machinists	68	85	17
Toolmakers	68	90	22
Boilermakers	68	85	17
Riveters	68	85	17
Blacksmiths	68	85	17
Sheet metal workers	68	85	17
Electricians	68	85	17
Car inspectors	58	85	27
Car repairers	58	85	27
Car repairers, steel	63	85	22
Helpers	45	60	15

Note.—These figures represent only the principal classes.

This demand was considered by the Board of Railroad Wages & Working Conditions, a board constituted last year by the Railroad Administration to consider wage matters, and consisting of three representatives of labor and three representatives of the railroad managements. On the question of any general increase to the shopmen, the board divided equally, the three labor members favoring an increase to a basis of 80 cents and the three management members opposing any general increase whatever, although expressing the opinion that unless the cost of living could be controlled, there would need to be a further general increase in wages. This is the first time when this board has thus divided on the question of a general wage increase presented to it. In every other case the board has been in agreement upon the proposition that there ought to be a general increase, although in some cases its members have been slightly apart as to the extent of the general increase. In this case three members of the board, who in all other cases have been in favor of a general increase, have thus opposed any increase whatever for the entire class of employees.

I believed it would be more satisfactory both to the employees and to the public to have this grave problem considered and disposed of by a commission created by new legislation. Recommendation to that effect was submitted to the appropriate committees of the Senate and the House, but the unanimous adverse action of the Senate committee made it clear that such a course would not be pursued.

It is also true that the employees themselves vigorously objected to my suggestion and insisted that the matter should be decided by me.

Since the subject must be dealt with, and no other method has been or is to be provided, it follows that it must be dealt with by the director general under the powers conferred upon the President by the Federal control act, and this must be done without the aid of any action by the wage board.

I approach this matter with the clearest conviction that the railroads must be conducted now and for all time in the future in such a way as to give to railroad employees an adequate compensation and a liberal share in the returns from railroad operation. This is not only justly due to the employees who make possible the rendition of the service but it is obviously in the interest of good service. It is true now, and will be true to a continually increasing extent in the future, that a state of contentment on the part of railroad labor will be indispensable to efficient railroad service and this contentment cannot exist unless the evidence of fair treatment is so clear that it will carry conviction to the railroad employees themselves.

I have, after the most careful possible study, and after considering everything presented on behalf of the railroad shop employees, reached the following conclusions:

The main contention of the shop employees is that their demands are just because of the rates paid in the ship yards, navy yards and arsenals. The basic rate in the ship yards was 80 cents at the time the shopmen presented their demands, and an increase effective October 1 next has just been made in an agreement (to which the government was in no way a party) between the employees and the ship builders on the Pacific coast. After the most careful consideration, I can see no escape from the conclusion that the rates paid in the shipyards cannot be adopted as a measure for the rates to be paid in the railroad shops. The conditions are fundamentally different. The work performed by employees classed as railroad shop employees is performed in every city and in every railroad town of considerable size in the United States. The principal railroad shops are not in the largest cities and many of the principal shops are in towns or cities of relatively small size. At the urgent instance of the employees, the rates for all these shopmen throughout the United States, whether in large cities, small cities or towns or virtually rural

communities, have been standardized on uniform bases. It cannot be, therefore, that these standardized rates can be put so high as to reflect the conditions prevailing in the relatively few industrial centers where shipbuilding was developed under high pressure during the war. Not only are the shipyards practically without exception in densely populated centers but employees had to be attracted to those yards in time of war in competition with munition plants and others paying exceptionally high wages, and the employees who were attracted to those yards had to establish themselves in these densely populated centers with particularly costly living conditions. In order to meet the keen competition of other war industries and to build up the forces of men in the shipyards exceptional rates had to be provided.

The work in the railroad shops not only offers year in and year out (despite the fluctuations incident to changes in the volume of business) reasonably steady employment, but also offers a practically permanent career. On the other hand shipbuilding represents to a large extent a temporary employment. This is brought out clearly by the following showing which is actual up to August 15, 1919, and estimated beyond that date, as to the employees who have been and will be employed in the shipyards so far as the present governmental program is concerned:

Date	Number of shipbuilders	Date	Number of shipbuilders
January, 1914.....	48,700	June, 1919.....	354,625
January, 1916.....	78,100	Dec. 31, 1919.....	250,804
January, 1918.....	144,600	June 30, 1920.....	230,000
November, 1918.....	373,622	Dec. 31, 1920.....	153,000
January, 1919.....	361,211	June 30, 1921.....	0

Note.—These figures do not include, as I understand it, members of office forces, but only include the men engaged in ship construction and men employed in fabricating shops and all other shops actually a part of the shipyard plant.

It is perfectly clear to me that the people of the United States cannot be committed to the policy that the wages of railroad shopmen in every city, town and village in the United States must be brought up to a basis created in an emergency and in a largely temporary war undertaking, concentrated in a comparatively few densely populated industrial centers where living conditions are exceptionally expensive and difficult, so that I conclude that the principal contention of the shop employees cannot be adopted.

Of course if the employees themselves were willing to accede to a plan whereby the wages of railroad shopmen in each community should be made with reference to the average wages in that community, other considerations would have weight. But the employees are insistent that the same wage scale shall be paid in every place in the United States, regardless of its size or of local living conditions, and as this principle has been adopted it necessarily follows that exceptional conditions in exceptional communities cannot be taken as the standard for the wages of railroad shopmen.

The conditions in the navy yards and arsenals cannot, largely for the reasons already stated, be taken as controlling; moreover, it has generally been recognized that the rates therein should reflect local conditions in the particular communities and they have not been standardized at all except for a temporary standardization for the war to correspond with the shipyard rates.

It is further urged by the employees that the rates they receive are below those paid in private industries for similar labor. The employees cite various instances of rates in excess of 80 cents for work of this character, but these citations merely refer to conditions in specific communities. It must also be remembered that to a large extent private industries themselves were influenced to an exceptional degree by the war conditions, enjoying the most exceptional profits and paying unusually high wages to meet emergency requirements. But no convincing evidence has been presented that the average of the wages paid in private industries generally,

or in those paying union scales of wages, throughout the United States for similar labor was or is substantially higher than the rates paid by the Railroad Administration.

I myself have collected the available information from the Department of Labor and that indicates that the average rate paid the principal metal trades in private industries, having union scale of wages, was at May 15, 1919, probably not more than 3 cents in excess of the 68 cent rate paid to the railroad shop employees. It is a question whether even as to private industries the advantages of work in railroad shops, including the advantage of substantial amounts of free transportation, do not make it reasonable for the railroad shops to have a differential under the rates paid in other private industries. This question, however, need not be decided because the decision made below will make the rates for the railroad shop employees in excess, if anything of average rates shown in the evidence thus obtainable from the Department of Labor for private industries.

In making comparisons for work of similar character between wages in the railroad industry and wages in private industries, due consideration must always be given to the fact that private industries are frequently able to increase their prices to the public without difficulty to offset, and more than offset, increases in wages, so that to a very considerable extent the wages fixed in private industries are fixed without any representation, either direct or indirect, of the general public which eventually must pay the bill. On the contrary the railroads whether under public or private control cannot increase the prices they charge, i.e., their transportation rates, except with the sanction of public authority. So the question must be viewed from the public standpoint as well as from the standpoint of the employees. This necessitates the most careful scrutiny of rates of pay which have been fixed by industries enjoying tremendous profits which are not subject to public control. Of course the wages paid railroad employees must be not only reasonable in themselves but reasonably satisfactory to the employees, and necessarily the general average rates normally paid elsewhere in permanent private industries for similar services, are an important factor for consideration. But the distinguishing conditions must never be ignored.

The further claim is made that the cost of living has increased. In a letter of August 5, 1919, signed by the executives of the six railroad shopmen's organizations, and also by the executives of the eight other organizations of railroad employees, including the various organizations of train and engine men, of telegraphers, maintenance of way men, clerks, the proposition is laid down that railroad employees are entitled to compensation which will, at least, re-establish the pre-war purchasing power of their wage.

The way to re-establish the pre-war purchasing power of wages is to reduce the cost of production and not to increase it.

The government is now taking vigorous steps to reduce the cost of living and is meeting with gratifying progress. This great work would be arrested if not defeated through the present adoption of the policy of moving up wages so as to reflect fully what is probably the very top-notch of the high cost of living. Such a movement would tend to increase still further the cost of living and injure every working man as well as every other person in this country.

In a statement presented to the President on July 30, W. S. Stone, president of the Brotherhood of Locomotive Engineers, said:

"We believe the true remedy for the situation, and one that will result in lifting the burden under which the whole people are struggling is for the government to take some adequate measures to reduce the cost of the necessities of life to a figure that the present wages and income of the people will meet. Should this not be considered feasible, we will be forced to

urge that those whom we represent be granted an increase in wages to meet the deterioration of the purchasing power of the dollar, be that what it may, which can be easily determined by competent authority."

W. G. Lee, president of the Brotherhood of Railroad Trainmen, in a summary of a statement made by him before the Board of Railroad Wages and Working Conditions and given to the press by him on July 31, stated that an increase in wages was not the proper solution of the present economic stress under which working men are laboring because they will be followed by new increases of cost of everything which would more than absorb the additional pay.

I therefore believe it would be unfair for the general public, subversive of the efforts which the government is making to reduce the cost of living, and injurious to railroad employees themselves, for the railroad Administration at this time to adopt the principle of moving up wages of all railroad employees so as to reflect the highest point yet reached in the high cost of living. Such action would mean inevitably an increase in freight rates which would stimulate an increase in the cost of everything consumed by the public and would give innumerable pretexts for covering up additional unwarranted increases in prices on the claim that such increases will be necessitated by the increased cost of railroad transportation. As a matter of fact the rates of pay and also the earnings of many subdivisions of classes of railroad employees have already been so advanced as to be ahead of the highest point yet reached in the general average increase in the cost of living in the country. Any effort to adopt that high point as the minimum level for all railroad wages will be highly detrimental to the public interest.

I have consistently urged throughout this calendar year that the greatest problem before the country is a reduction in the cost of living and one of the greatest obstacles in the way of such reduction would be substantial increases in transportation rates. I am convinced that it is not reasonable from the standpoint of the public and would not be beneficial from the standpoint of railroad employees to make an increase in wages in the effort to overtake the high cost of living, since the increase would thereby result in putting cost of living that much further out of reach and would seriously obstruct the efforts now being successfully undertaken to bring down the cost of living.

In this connection it is proper to say that if railroad shop employees be viewed as a class it appears from the best data available that, comparing the total earnings of those employees now with their total earnings in the year ending June 30, 1915, the average increase in their earnings is somewhat in excess of the total increase in the cost of living from July 1, 1915, to August 1, 1919. This comes about by the fact that in carrying out the policy of standardization so strongly urged by the railroad employees great numbers of men employed in railroad shops were given the benefit of a higher classification which entitled them to wages much in excess of the increases indicated by the mere difference between the old rates of pay and the new rates of pay. While it is true that those railroad shop employees who enjoyed the highest scale of wages prior to the war may not have received an increase fully commensurate with the increase in the cost of living it is also true that great numbers of those employees have received increases substantially in excess of the increase in the cost of living. This condition however should afford no basis for the claim that the total increase already given to railroad shop employees is excessive, because I do not believe that such is the case. On the contrary, I believe the railroad shop employees were fairly entitled as a whole to the increases in wages provided and are also fairly entitled to the additional increase next below mentioned.

There has been insistent contention that while all other classes of railroad employees have had their wages adjusted

in such manner that they receive an increased wage in addition to receiving 10 hours pay (in the pre-war period) for eight hours' work, this same treatment was not accorded to the shopmen. While it has been urged with equal insistence that the shopmen got offsetting advantages, it seems to me it is true that in this specific matter the shopmen did not receive the benefit of equal treatment. On that account it seems to me fair in all the circumstances to recognize this condition by giving the shop employees a rate of 72 cents instead of 68 cents for the classes now receiving 68 cents.

Under Supplement 4 to General Order 27 and an addendum to that supplement, two different rates have been provided for car repairers, one a rate of 63 cents for steel freight car repairmen and another a rate of 58 cents for wooden freight car repairmen. This distinction has been difficult to maintain and has been the source of dissatisfaction and there is general agreement among the members of the wage board that the condition ought to be remedied (although the labor representatives think it ought to be remedied by increasing the rates for all car repairers to the highest rates).

I therefore conclude, that, except as stated below, the rate for all freight car repairmen who by Supplement 4 to General Order 27 and the addendum thereto were intended to receive either 58 cents or 63 cents shall receive 67 cents per hour. There has been great dissatisfaction because car inspectors generally have received only the rate of 58 cents notwithstanding the fact that steel freight car repairmen have received the rate of 63 cents. My conclusion is that, except as below stated, car inspectors should receive the same rate as above indicated for freight car repairmen and therefore should receive 67 cents per hour.

The exceptions above referred to as to freight car repairmen and as to car inspectors are as to such employees at outlying points other than shops and main line terminals at which points the work, generally speaking, is not continuous. The increase for freight car repairmen and car inspectors at such outlying points will be 4 cents per hour. The determination as to the points where the freight car repairmen and car inspectors who according to this principle get only the 4 cents increase will be taken up in conference with the representatives of the shopmen with a view to arriving at a reasonable and definite working rule.

As to all other classes covered by Supplement No. 4 and not above specifically dealt with, the rate of increase shall be 4 cents per hour.

Ever since last September it has been the settled principle of the Railroad Administration to make wage orders retroactive to a date approximating the date upon which the Board of Railroad Wages and Working Conditions made its report and in this instance that report was made on July 16. The conditions here, however, are peculiar in that the action of the wage board has been delayed for an exceptional length of time, the presentation to the wage board having been made last February. In these circumstances it seems to me that, as a part of a negotiation of a national agreement, the changes above indicated could properly be made effective as of May 1, 1919, and the Railroad Administration is willing to make these changes in rates of pay effective as of that date for all employees who do not leave the service pending the completion and adoption of a national agreement with the shopmen's organizations.

In opening the conference with the shop committee on August 20, the director general made it clear that as the representative of the President and of the public, it was necessary for him before acting on the demands for increased wages to have before him adequate information covering the subject in order to determine whether all or any part of the requests of the shopmen for increased wages was justified by the facts. He explained that he had obtained such information as was available from the railroad managements, in-

cluding the facts they had obtained from other industries. In order to develop these facts further, he stated that he understood the claims of the shopmen raised the following questions:

1. Are the wages now paid shopmen in railroad employ on a fair basis compared with the wages paid shopmen doing comparable work in private industries outside of the railroads?

2. Are the wages paid railroad shopmen comparable with the wages paid shopmen doing similar work in ship yards, navy yards and arsenals under government control, and is employment in the shops of the railroads in fact comparable at all with employment in the shops of these other governmental agencies, particularly with regard to the wages established in those other governmental agencies during the war period?

3. Does the increased cost of living at the present time, as compared with the pre-war period and the increases in wages given to shopmen on railroads in the same period, justify further advances in wages to railroad shopmen?

Taking up these three propositions separately, the representatives of the shopmen claimed (1) that wages of railroad shopmen are materially lower than the wages paid shopmen in outside private industries, and that even since the signing of the armistice material advances in wages had been given to shopmen employed in such outside private industries; (2) that the wages paid shopmen in ship yards, navy yards and arsenals under government control have been and are materially higher than the wages paid shopmen on railroads, and that the two industries are comparable because the basis on which the wages in these outside governmental industries have been based had no direct connection with the war, but had direct connection only with a fair basis of wages prior to the war and increases in the cost of living since that time; and (3) that the demands for increased wages paid railroad shopmen did not rest primarily on the increased cost of living, although that it was an important contributing factor, but rested primarily on the proposition that the wages of shopmen ought to be increased so as to be more in line with wages for similar work in other industries.

Shop Employees Take New Strike Vote

After having received the President's decision the executives of the shop unions called on Mr. Hines to ask if the decision was final, and when informed that it was, they went into conference to plan their course of procedure. Ballots were still being counted on the vote as to whether the leaders should be authorized to call a strike or whether they should accept the plan which was abandoned after the strike ballots were sent out, for the submission of the demands to a special tribunal.

On Tuesday the committee representing the shopmen formally advised Mr. Hines that they could not accept the offer, and an order was issued for a new strike vote. With the order were sent copies of the President's statement, at his urgent request, and also of Mr. Hines' proposition with the request that they be given most careful consideration at a summoned or called meeting of each craft. The letter to the officers and members of the unions calling for the vote stated that the director general had declared that the proposition was final and that there would be no wage increase granted to any other class of railroad employees as a class, but that in the event of unjust inequalities, as between individuals, adjustments involving increases to equalize rates of pay would be made where justified, except under the conditions stated in the fourth paragraph of the President's statement.

"Knowing the sentiment of the membership," the letter stated, "your committee, after duly considering the proposition, advised the director general that they could not accept

as a basis of settlement the rates established in his proposition, as submitted by the President.

"Practically every class of railroad employees have now submitted requests for substantial increases over existing rates of pay. It is well that our members give very serious consideration to this fact, if there is to be any additional general increase in the wages of railroad employees, the federated shop trades will receive the same consideration. Don't fail to give this statement careful thought and don't forget that if the federated shop trades become involved in a strike now, you are striking alone to force an increase for the two million railroad employees.

"In view of the foregoing facts, the statements contained in the President's letter and the responsibility that must be assumed if a suspension of work is to take place, your executive council has decided that it would fail in its duty were it to authorize a strike until the membership have had an opportunity to decide their course of action on this proposition. It is not our intention to shirk any of our responsibilities as executive officers and the wishes of a constitutional majority of the membership, expressed by their vote as hereinafter directed, will be carried out. Until the wage question has been disposed of there will be no action taken in connection with reaching a conclusion on the national agreement."

Then follow instructions for taking the vote, which is to be returned at once. "Pending the issuance of the official strike order (provided the members vote to strike) it is earnestly requested that every member shall remain at work." It is also stated that owing to the large number of members involved, it must be understood that the respective international organizations will not be obligated to pay regular strike benefits beyond the limits of the funds available for that purpose.

This letter was much less belligerent than a circular issued by B. M. Jewell, acting president of the Railway Employees Department of the American Federation of Labor, and the executives of the shop unions, under date of August 5, giving instructions for the plans and methods to be followed in case of a strike resulting from the vote which was returnable on August 24. In this it was stated that, "If it comes to a strike we want to make the tie-up complete and keep it in that condition until we get the proper recognition from those that can give it to us. Our success depends entirely upon how we can stop the transportation service of the country. If it comes to a strike we must make it the most effective one in the history of this country." In presenting a copy of this in the Senate on August 23, Senator Thomas of Colorado said: "I merely wish to say, in comment upon this remarkable document, that it is a perfectly legitimate development of the action of Congress in 1914 in exempting organizations of men from the operation of the anti-trust law."

Wage Board May Take Up Adjustments

Director General Hines has addressed a letter to A. O. Wharton, chairman of the Board of Railroad Wages and Working Conditions, to define the functions which it is appropriate for it to perform in view of the decision announced by the President.

"The position of the government," he says, "is that in view of its campaign to reduce the cost of living, and of the strong prospects that substantial relief will be achieved, it is not proper now to make general increases in wages on the assumption that the present cost of living will be permanent, and that pending the efforts of the government to bring down the cost of living, the higher costs of living ought not to be accepted as a permanent basis of wage adjustment; although it is recognized that if the efforts of the government to bring down the cost of living should fail, railroad wages should be readjusted in the light of any permanent

higher living costs which would thereby have to be recognized.

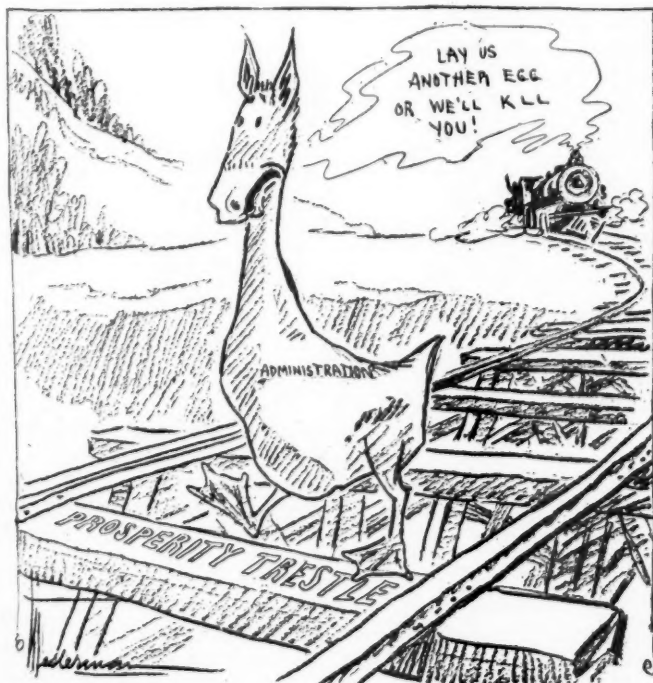
"The President has also made it clear, however, that the Railroad Administration is not precluded from giving prompt and careful consideration to any claims that may be made by the various classes of employees for readjustments believed to be proper to secure impartial treatment for all railroad employees.

"I therefore request that you take up promptly the claims which have already been presented and those which are to be presented by any class of railroad employees to the effect that either for their classes as a whole or for any subdivisions of those classes, readjustments ought to be made in order to make sure that equal treatment is done on the basis of the general principles of wage adjustment which the Railroad Administration has already established.

"It has been our constant endeavor since the first wage adjustments were made by the Railroad Administration to deal fairly and impartially with all classes of railroad employees. The situation is so complex that absolute perfection in this regard is unattainable. Nevertheless, our experience up to the present time may in all probability develop that certain relative injustices may have been unintentionally done, and it should be our purpose promptly to correct these injustices.

The Railroad Administration has been firmly committed to the policy since last September that it cannot make wage adjustments retroactive back of a date approximating the date upon which your board makes its report, because otherwise there would be unending confusion and all effort to get a measure as to the cost of conducting the railroads at any given time in the past would be rendered hopeless. I therefore hope that your board will be able to report promptly upon any inequalities which may be found to exist, to the end that any correction which the director general may find appropriate can be made effective at the earliest justifiable date in accordance with the policy of the Railroad Administration.

"In all such matters the board will be expected to report not only a statement of facts and its conclusions upon the facts, but also its recommendation."



From the Columbus (O.) State Journal

Precedent

Coal Association Says Transportation Is Insufficient

THE RAILROAD ADMINISTRATION is not furnishing enough transportation to insure production and shipment of sufficient bituminous coal to meet the requirements of the nation this year, John Callahan, traffic manager of the National Coal Association, testified before the Senate committee investigating the coal situation.

"Car shortages caused the coal mines to fail to produce 5,900,000 tons of coal during the weeks ending August 2 and August 9," Mr. Callahan said. "This is sufficient coal to supply the requirements of the state of New Jersey for ten months. The difficulty to-day is a transportation deficiency and not a car shortage alone. Coal is one of the few commodities which cannot wait on transportation. It is physically impossible in many instances to bring coal to the surface and store it. Moreover, the proper place to store coal is at the point of consumption, where it will be available when required for use. Railroad cars must be ready when the coal is brought out of the ground.

"Many mines are idle to-day on account of no cars. Two hundred and eighty-five mines were idle because of car shortage in one West Virginia district during the week ended July 26. This was before the shop men's strike. Ninety-seven mines in this district failed to go to work in one day while many others only worked part time that day.

"The total bituminous coal lost through lack of railroad cars at the mines from the week ending June 7 to the week ending August 9, inclusive, was 12,251,762 tons, distributed by weeks as follows—June 7, 338,996; June 14, 655,190; June 21, 936,662; June 28, 644,149; July 5, 385,485; July 12, 428,359; July 19, 1,146,075; July 26, 1,764,264; August 2, 2,311,402; August 9, 3,591,180. This means 245,000 cars, or 7,000 train loads. This is more than six months' supply for all of the New England states; and this loss occurred in 10 weeks only.

"Since July 12, this shortage has been increasing by leaps and bounds. These figures are based on the United States Geological Survey reports, which indicate that whereas for the week ended July 19, where Director General Hines chose to close his recent report to the Senate, the loss on account of car shortage was 7.4 per cent of full time output, the loss on August 9 was 22.5 per cent; this in the face of statements by the Railroad Administration to the effect that conditions are not now normal. In other words, the loss because of no cars at mines has trebled in three weeks, and is now on a parity with the ordinary shortage during severe winter months when the railroads are handicapped by congestions and engine failures.

"The director general points out that 37,000 new cars have been built, of which 17,000 have been put in service. If all of these 37,000 cars had been in service during the week of August 9 there would still be a shortage of 34,000 cars during that one week alone; but these cars are not yet in service and they are going into service very slowly. The director general states they are being stencilled and lettered and placed into service. He does not say how rapidly. In one instance recently where 2,000 of these cars were being lettered, the work was being done at the rate of 10 cars per day; on this basis, more than seven months would be necessary to place this one batch of 2,000 cars in service."

Mr. Callahan said that the movement of traffic is not adequate to the demands of coal to-day, and presented a table indicating that the average miles per car per day of all cars during 1915 was 24.4 miles. "The mileage per car per day for all cars in 1916," he continued, "was 26.9 miles. It declined in 1917 to 26.4 miles per day, and in 1918 it was 24.9 miles per day, but during the first six months of 1919, the

average miles per car per day for all cars declined to 21.5 miles. This means a much lower mileage on coal than the average figures shown. If all traffic is moving slower, it is natural to suppose that coal moves much more slowly."

Mr. Callahan also introduced charts showing bad order coal cars by weeks from April 5 to July 19, and indicating that whereas there were 66,192 coal cars in bad order on April 5, on July 5 there were 105,295 of such cars requiring repairs, a rise in the percentage from 6.5 to 10.4 percent of the total coal cars in the country. He also stated that "while the Railroad Administration statements recently set forth that there are 208,531 bad order cars at the time Mr. Hines' report was written (August 14) and while the director general stated that 'a large number of cars awaiting repairs are held for only light repairs which can be speedily applied' the facts are there were 135,895 cars requiring heavy repairs, and 72,636 cars requiring light repairs at the middle of July. This figure includes all cars and it is assumed that there are relatively as many coal cars requiring heavy repairs as other cars requiring heavy repairs." At the time to which reference is made 47 per cent of these 208,531 cars, or 98,139 cars were coal cars in bad order; and that on August 2, there were still 96,758 of these coal cars to be repaired.

"The shop men's strike has occurred since August 2, and there are doubtless many thousand additional cars to-day requiring repairs, over and above the number on August 2," Mr. Callahan said. "There are proportionately more coal cars in bad order to-day than closed cars. Of a total of 1,183,490 closed cars, 95,928 or 8.1 per cent were in bad order on July 12, as compared with 98,139 bad order coal cars, out of a total of such cars of 974,547 or 10.1 per cent coal cars in bad order. Repairs to coal cars are being neglected through preference to other cars. Moreover a figure of 10 per cent of coal car ownership in shop is abnormal. There should not be to exceed 5 per cent of the total number of coal cars in shop under ordinary good railroad management.

"The country is full of bad order cars. They impede the movement of freight through railroad yards in certain districts and are backing up the current of traffic. Moreover 8 to 10 per cent of the 62,000 locomotives owned by the railroads under Federal control are now in the shop for classified repairs. These 5,500 or more engines, according to indications, will be needed quite early this winter. They could be used now in avoiding blocking coal mines with loaded cars. If these engines are not repaired at once, they may, when required for use, be in just the same condition so many cars are in to-day."

Mr. Callahan also quoted some correspondence with the Railroad Administration in which Mr. Hines said:

"There appears to be quite a disposition on the part of coal operators to exaggerate the argument about car shortage. I hope this disposition will not be persisted in because necessarily if the situation should be habitually exaggerated we would have to take issue with the claims thus made. It would be unfortunate for the Railroad Administration and the coal operators to get into a controversy on this subject because the controversy would tend to encourage people who are postponing the purchase of coal to feel that the coal operators are not justified in urging the purchase of coal. Naturally we prefer to see the purchase of coal expedited so it can be handled before the Fall and hence we prefer not to say anything which will tend to encourage purchasers to hold off. Yet we could not remain quiescent under repeated assertions exaggerating the car shortage situation and incorrectly stating the policy of the Railroad Administration as to utilizing and repairing its equipment.

"What I would like very much to do is to get the practical co-operation of the coal operators in notifying us of any serious car shortages that exist in specific regions. Of course these matters are reported through our regular channels and

are supervised accordingly, but a systematic and accurate check of the matter from the standpoint of the coal operators would be an additional safeguard of which we would gladly avail ourselves. Specific information along these lines conveyed to us will help us to handle satisfactorily a situation of common interest."

Senator Lenroot Introduces Railroad Bill

UNIFICATION OF ALL RAILROADS in the United States into a single national system, privately owned, with minimum earnings guaranteed, and with the management shared by shippers, farmers, security owners, employees and the public, and excess profits divided between the public and employees is provided for in a bill introduced in the Senate on August 27 by Senator Lenroot of Wisconsin.

The bill embodies the views of the Wisconsin Senator and Nathan L. Amster, president of the Citizens' National Railroads League.

Some of the principal features of the bill are:

The ownership and operation of all the railroads by one privately owned and privately operated railroad company with full public control.

The management of this corporation, under the supervision of the Interstate Commerce Commission, by a board of 11 directors selected by the President out of a limited number of names proposed to the President by the various classes of the public—two from the employees, two from commerce, industry and the shippers as represented by the United States Chamber of Commerce, two from the farmers as represented by recognized farm organizations, three from the security holders, one from the Interstate Commerce Commission and one from the state railway commissions.

The selection by the directors of a director-general, who holds office at their pleasure, to operate the roads under such regional divisions as the directors may determine. An efficiency and economy board of five men selected by the President out of engineers proposed to him by the leading engineering and technical societies of the nation, to study service and suggest and supply improvements and inventions.

The valuation of all the railroads by averaging the original cost less depreciation, the reproduction cost less depreciation and the net earnings over the last 10 years capitalized at 5 per cent per annum, varied by urgent equities. Procedure is provided for expediting the valuation and for an early judicial determination of the fairness of such valuations.

Existing bonds would not be disturbed; new stock with maximum dividends of 6 per cent per annum would be exchanged for existing stock as valued by the Interstate Commerce Commission. Earnings in excess of 6 per cent will go 40 per cent to labor, 30 per cent to the public for improvements and retiring outstanding stock, and 30 per cent to the stockholders.

The government would guarantee dividends of 4 per cent on all stock issued by the corporation. No stock to be issued without the consent of the Interstate Commerce Commission.

The directors would establish various labor boards with equal representation for labor to suggest improvements of service, working conditions and safety and to study wages and mediate in all labor disagreements. The right to organize and the right of collective bargaining would be guaranteed.

The Traveling Engineers' Convention.—The Railway Equipment Manufacturers' Association announces that 65 firms have already arranged for space at the exhibit which will be held in connection with the convention of the Traveling Engineers' Association at the Hotel Sherman, Chicago, on September 16, 17, 18 and 19.

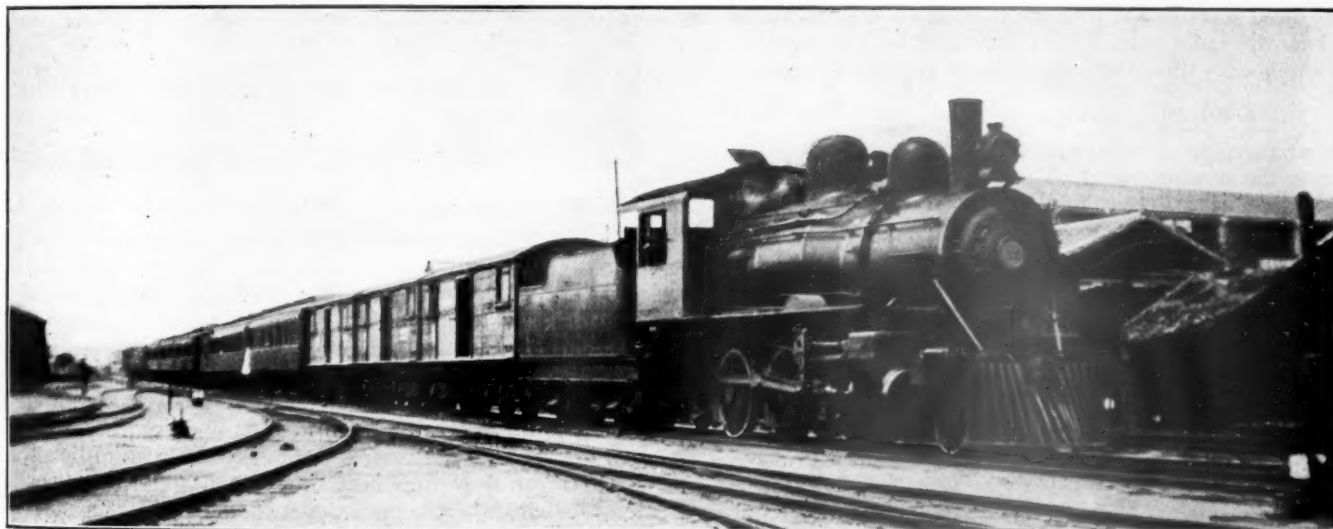
American Railway Materials in the Far East

China a Big Market—Japan Likely to Be More of a Competitor
Than a Customer in the Future

THAT AMERICAN railway supply concerns should find a large market in China in the future, but that Japan will probably come to be regarded as less of a customer than a competitor is the conclusion of Frank Rhea, as expressed in his report on Far Eastern Markets for Railway Materials, Equipment and Supplies issued this week by the Bureau of Foreign and Domestic Commerce. Mr. Rhea, whose earlier report covering Australia and New Zealand was published some time ago, investigated for the present report, China, Japan, Manchuria, Korea and the Philippines. The report, Special Agents Series No. 180 is a paper bound book of 339 pages. It goes into great detail concerning the history and development of the railways in the countries visited and contains a detailed analysis of the physical, financial and operating conditions of all individual railways. It draws particular attention to the lack of unity of the Chinese railway system and the great need of further extensions, ad-

the equipment and construction of the Chinese railways. These lines have been built to the standards of the countries which supplied the capital for their construction. There are, for example, four distinct types of locomotives, British, Franco-Belgian, German and American. The last are present to a greater or less extent on all lines, but they predominate on the Chinese built lines, such as the Peking-Suiyuan and the Shanghai-Hangchow-Ningpo. Mr. Rhea favors the American engines with their bar-frame construction as being best suited to the class of track construction and maintenance that prevails on most Chinese railways.

The Chinese railways have as a whole, the report says, a more miscellaneous assortment of equipment than any other equal mileage of railways in the world. A considerable part of the rolling stock is light and of small carrying capacity. This, the report says, is unfortunate, for the reason that the railway business of China is not naturally a classified goods



A Train of American Equipment Throughout on the Kwangtung-Yueh-Han Railway, Which Will Eventually Become Part of the Canton-Hankow Line

ditional equipment and the working out of standards on these lines. It also emphasizes the difficulty of bringing about these things without some scheme of consolidation or unification, a change which in the past has been hindered by the various loan agreements and spheres of influence. "Regarding Japan," he says, on the other hand, "it seems only necessary to say that it has passed through all the stages of its railway development until at present, from the standpoint of railway markets, it seems a question rather of competition from Japanese sources than of retaining the general trade in the Empire that the United States has enjoyed in the past. While there will continue to be markets for many materials of American manufacture, the Japanese will, of their own accord, investigate and decide as to their requirements. In short, Japan has reached the point where it is capable of carrying on its own individual railway development. This has been the object of the Japanese railway policy for a considerable number of years."

Equipment

Mr. Rhea brings out plainly in his report the effect of the existence of the loan agreements and spheres of influence on

business but rather the transportation of commodities, and this tendency as the railways are extended and the traffic grows, will probably become more pronounced. Therefore, the advantage of freight cars of large capacity and heavy motive power along the lines of American practice is readily apparent. The small capacity of the bridges, on most lines, however, will have to be corrected before the type of equipment demanded by this class of traffic can be used. The tendency nevertheless is towards rolling stock of greater capacity until today practically all new freight cars are of 30-ton capacity.

It is surprising, says the report, to find the small amount of freight equipment that is equipped with air brakes. When used, air brakes are of the Westinghouse design of the nation furnishing the equipment. It is not usual for other nations to put as much braking on the locomotive and tenders as is the American practice.

The British have used their typical steel-tired wheel, usually with cast steel centers and of 42-in. diameter on passenger and freight cars of all classes and capacities. The Germans have done the same with a wheel 100 cm (39.37 in) diameter. On the American equipment, particularly freight

cars, most of the wheels have been of the regular chilled cast-iron type and according to the information obtainable, have given satisfactory results.

With the conditions now prevailing and until such time as the Ministry of Communications adopts definite specifications, it is quite proper (and, in fact, advisable) for American manufacturers to put forward propositions conforming in general to American specifications for equipment to be furnished to the Chinese Government railways; advantage should be taken of such points as type of engine frame, but such non-essentials as type of boiler and fire-box materials can be conceded. This suggestion is made for the reason that, in the writer's opinion, the best interests of the Chinese Government Railways will be served by the use of rolling stock along the lines of American practice. Inquiries from Japan will no doubt give very definite and detailed specifications as to what is wanted.

Buying Additional Equipment

In view of the small amount of rolling stock that the Chinese Government Railways now have for the handling of their traffic and the immediate need of additional equipment to take care of their growing business, it appears to the writer that there exists an excellent opportunity for American interests to furnish a considerable quantity of rolling stock, to be financed through the medium of equipment trust certificates, along the same general lines that have been followed in connection with the American railways for many years.

Kind and Amount of Equipment Needed

At the risk of repetition, it is felt that the situation warrants the statement that additional freight equipment in general should be of large hauling and carrying capacity, that it should be provided with power brakes, and that there should be a continuance of the use of automatic couplers constructed with robust draft rigging for the handling of heavy tonnage trains over moderately long distances. It is not probable that the hauls in China will equal those in America, but in all



A Typical Station on the Canton-Kowloon Line

probability the average future haul in China will considerably exceed the average in most other countries and much of the business will be done on a commodity basis.

It is quite impossible to state the amount of equipment that will be needed, but, with the car efficiency now obtained, it seems reasonable to assume that the Chinese railways will not need an amount of equipment equal to that needed in the United States. However, as the haul becomes longer (as it has been steadily doing) and as the business grows it is hardly likely that the present car efficiency will be maintained. Therefore, it is probable that a very considerable amount of additional rolling stock—especially freight cars and loco-

motives—will be required, but that this will not be equal to that on American railways handling an equal amount of business. One element that has helped the Chinese lines and probably will continue to do so is the supply of labor available in all parts of China, which makes it cheaper to unload cars and store the materials than to pay the present high car-demurrage rates.

Roadway and Bridge Materials

One serious handicap from which the Chinese railways are now suffering and which it will be very expensive to remedy is the fact that all the bridges that have been built carry what



On the Yunnan Railway. A Typical Scene of Almost Any Chinese Line

American railway men consider very light loads. In only a few cases does the load exceed the equivalent of Cooper E-40, and in a number of instances it is as low as E-35. A good example is the Shantung Railway, where the Japanese management is desirous of using heavier motive power, but is unable to do so because the bridges only carry a load equivalent to Cooper E-35; there are about 1000 structures involved, but most of them are short single spans. Each nation has followed its particular practice. It is also apparent that on some of the lines sufficiently large openings have not been provided.

Bridge materials for the Chinese Government Railways thus far have been largely furnished by the loan interests or from the Shanhaikwan bridge works of the Peking-Mukden Railway. In general, the specifications have conformed to the practice of the nation responsible for the loan. For recent construction and replacement, however, a good many bridges have been obtained from American sources. This is particularly the case with the new work on the Canton-Hankow line and the replacement on the Peking-Hankow line of bridges lost in 1917.

On account of the great scarcity and high price of lumber, there is a decided tendency to construct railway buildings of all classes with brick stone or concrete. On most of the lines very substantial buildings of all classes have been provided, and, as already mentioned, in some instances these are elaborate and ornate.

The supply of crossties is a matter of the greatest importance to all the Chinese railways. No part of China, except portions of Manchuria, has any timber suitable for ties. In the past most of the ties used have come from the North Island of Japan, and this will probably remain the main source of supply for some years to come.

One of the great problems of railway construction and maintenance in China will be the supply of suitable crossties.

The life of most timbers is comparatively short and the cost high. In the writer's opinion, a special steel or other similar type of cross-tie will provide the solution of this difficulty. One of the conditions that will assist in the success of special track construction in China is the large supply of the cheap and capable labor required for such construction and maintenance, particularly when heavy traffic is handled.

The supply of timber in China is small and the price very high, and the present growing practice of using reinforced concrete for station curbing, information signs, fence posts,



A Scene on the Yunnan Railway Showing Typical French or Belgian Railway Construction

and many similar requirements will no doubt be further extended on all the lines.

Normally the Japanese railways are supposed to obtain their supply of rail and fastenings from the Imperial Japanese Steel Works and the Chinese railways from the Han-Yeh-Ping Steel Works, but, because of the demand for the products of these plants, considerable quantities of rail and fastenings have been obtained from other sources. Japanese railways recently obtained a considerable quantity of rail from the steel mills in Colorado. There is a decided opportunity for the use of rail anchors (anti-creepers) on many of the Chinese railways. All rail anchors used thus far in both countries have been largely from American sources, although in Japan the practice is quite extensive of using second-hand ties set on end to anchor the track.

While the frogs and switches have conformed in the main to the practice of the builders, the tendency for new work and maintenance is to use material along the general line of practice that is becoming common in both China and Japan, representing what might be termed a compromise between British and American practice. Thus far only a few special hardened parts have been used, but the growing traffic on both the Chinese and Japanese railways will warrant the extensive use of such material, for which their track work is well adapted.

Shop Machinery and Tools

The Japanese railways have given this subject careful study, and their shops, as a rule, are equipped with well-selected machines and tools, a large percentage of which are from American sources, although much equipment is also of British and German manufacture and a growing percentage is of Japanese manufacture. The Japanese are very alert and are increasingly appreciative of the benefit of the best equipment along these lines. They will doubtless keep close watch on American developments, and, in all probability, this will continue to be one of our best fields in the Japanese railway markets, particularly on account of the special adaptability of

many American products. American machinery and tool manufacturers are, as a rule, well represented in Japan either by American concerns or by the strong Japanese commercial and engineering companies.

Outside of the South Manchuria Railway shops at Shakako and to a certain extent the Tangshan and Harbin workshops, the railways in China are rather inadequately equipped with expediting and labor-saving machinery and tools. Much of the present equipment is of American manufacture, even on the lines built with British, French, and Belgian loans, but in the German-built shops nothing but German machinery has been used.

With the limited equipment and the pressure of growing business the present slow hand methods of doing much of the work have proved unsatisfactory—not from the standpoint of cheapness but because they keep equipment out of service when it is badly needed. A typical case of this is the boiler repairs to the large locomotives in use on the Peking-Suiyuan Railway, which are held out of service almost twice as long by reason of the hand work as they would be if the repairs were effected with a full complement of compressed-air working tools. Therefore, notwithstanding the cheap and capable labor, there should be, and probably will be, a growing demand for shop tools in the Chinese Government Railway workshops.

Representation

The question of representation is admittedly one of much importance. In Japan, at present, there are a number of well-organized American concerns representing American manufacturers; most of these have Japanese employees who are technically familiar with the products handled. The several strong Japanese commercial and engineering companies usually represent a number of American manufacturers for the sale of railway materials, and as a rule these concerns have a well-organized technical staff. In addition there are a num-



French Equipment on the Yunnan Railway

ber of large American manufacturers who have established branch plants in Japan. Much has been said concerning the advantages of these different arrangements, and, on the other hand, there has been considerable criticism of each of the last two methods as not being, in the long run, to the best American interest. The writer inclines to the opinion that it is quite desirable, in any event, for American interests to retain control of the business in some form, and the first of the above arrangements has much to commend it, especially in view of the fact that there are at present a number of well equipped American concerns for handling the business.

In China, aside from the Han-Yeh-Ping Co. and the railways' own workshops, there are very few strictly Chinese

concerns handling railway business. There is, however, a considerable variety of commercial concerns in China representing American manufacturers of railway materials. Some of these are of strictly American interests, but few are fully staffed with Americans, although several are approximately so, especially as regards the technical staff. Some of the other concerns are mixed as to interest, nationality of concerns represented, and nationality of staffs (particularly the technical staffs). It is felt by the writer that American interests and also the customer's interests would be best served



Typical Light Railway Equipment Such as Is Used on the 2 Ft. 6 In. Gage Feeder Lines of Japan, Korea or Formosa

through the representation of American manufacturers by American or American-Chinese concerns. Such interests will give the best consideration to the permanent maintenance of the business, while the houses of other nationality will be chiefly interested in the immediate business and the profit therefrom and will desire to secure later business for their own nationalities. This statement is especially pertinent in connection with the recent war conditions.

The question has been asked whether there are sufficient



A Light Railway of 2 Ft. 6 In. Gage. This Scene Taken on the Antung-Mukden Railway (Since Converted to Standard Gage) Is Typical of the Light Railway Lines in Japan, Korea or Formosa

American concerns of this character to handle the present and future business.

The writer believes that there are; in fact, he is strongly of the opinion that some of the present concerns should make a working arrangement under the provisions of the Webb-Pomerene law (making it possible for American interests to combine in handling foreign business), especially to eliminate some of the unwarranted competition between American in-

terests and to represent fully the best American products. Another desirable result that such a consolidation would tend to insure is the utilization of the most experienced men, particularly those who have been in China and have become acquainted with conditions. Probably more than in other countries, experience is an asset in handling business in China. Application engineers should be engaged for long periods—at least 5 years and preferably 10 years. As a matter of fact, this is the rule with the engineers of other nationalities. Also, to handle these markets to the best advantage, it is very necessary that such engineers should return to America for periodical visits to keep fully up to date with developments. Another advantage of such an arrangement would be the utilization of high-grade men to handle extensive lines of railway materials, equipment, and supplies. This will be particularly desirable when competition is encountered.

In the writer's opinion, the railway markets of China are going to develop along such lines—in fact, conditions are such now—that one experienced, energetic representative can handle a very considerable number of similar lines; and he can do this at the various commercial centers if aided by the staffs of the several local offices. This is especially true where these local offices have well-qualified engineers (as they frequently have). These remarks apply particularly to the concerns that have their principal or head office in one of the large trading centers—usually Shanghai but sometimes Tientsin—and branches in the other centers, such as Peking, Hankow, and Canton or Hongkong, these centers being the most important from the standpoint of railway markets.

An additional reason for American manufacturers to combine for handling the sale of railway equipment and materials to the Chinese Government Railways is the growing tendency for the Ministry of Communications to supervise large purchases. Manufacturers in the United States do not yet appreciate as they will later the difference between selling railway equipment and material to a centralized buying organization and the competitive buying of a large number of private railways. This is also a strong argument for having seasoned application engineers available to handle this business, particularly in view of the weight that such men's opinion carries with the Chinese officials. It goes without saying that an acquaintance with the personalities of the officials and a knowledge of the formalities of procedure are valuable assets in this connection; and they both take time to acquire.

Commercial interests of Yoakum, Tex.; Hallettsville, Eagle Lake and Houston have protested to the Railroad Commission of Texas against the lack of train service on the San Antonio & Aransas Pass, which has not maintained through passenger service between San Antonio, Tex., and Houston for several months. The contention of the railway is that it has no money for better service and that there is no through travel between Houston and San Antonio. Prior to November, 16, 1918, the San Antonio & Aransas Pass operated two night trains without layovers between Houston and San Antonio. At that time a layover of four or five hours at Yoakum was adopted, the idea being to operate these trains in the interest of local travel into and out of San Antonio and Houston rather than of through travel. This layover at Yoakum led to complaints from that and other points and effective June 1, the layover was changed to Eagle Lake which in turn led to the recent complaints. The Railroad Commission, after investigating the matter, concluded that the through service in effect prior to November 18, should be reinstated and so recommended to the Railroad Administration.

Talk is cheap and so are Thrift Stamps, but the similarity ends there.

Railroad Hearings Before House Committee

Executives Explain Need for Changes in System of Regulation and for Temporary Continuation of Guarantee

WASHINGTON, D. C.

THE PLAN PROPOSED by the Association of Railway Executives for the regulation of the railroads after their return to private control with some provision for the transition period during which they ask that the present guarantee be continued pending a readjustment of rates to the new level of expenses, was advocated before the House committee on interstate and foreign commerce by Alfred P. Thom, counsel for the Association of Railway Executives, R. S. Lovett, president of the Union Pacific, Howard Elliott, president of the Northern Pacific, and S. T. Bledsoe, general counsel of the Atchison, Topeka & Santa Fe. An outline of the plan as presented by Thomas De Witt Cuyler was published in last week's issue. Mr. Thom presented a legal argument and Judge Lovett and Mr. Elliott discussed various phases of it and the general railroad situation.

One feature of the testimony was the appearance of an open breach between the executives and the National Association of Owners of Railroad Securities, which puzzled members of the committee as to why there should be such a difference between the executives of the railroads and men claiming to represent their owners until it was explained that the Warfield plan particularly represents the views of representatives of the bondholders while the executives more particularly are the spokesmen of the stockholders, although neither side was very careful to draw the distinction.

Judge Lovett's Statement

Judge Lovett's statement was principally an argument against any plan which would confiscate any of the net income of a railroad above 6 per cent for the benefit of the less fortunate, or, as he put it, the less efficient roads, and he was bitter in his denunciation of the Warfield plan, declaring that "a man would be a fool to put his money into railroads under such a system." He showed that a net income of 6 per cent would mean much less than that for the security owners because it is necessary to use a part of it for that part of the cost of replacements which cannot be charged to operating expenses but which in many cases adds nothing to the real capital of a road or to its earning power. He applied his remarks to a less extent to the plan of the National Transportation Conference, which also proposes a division of the income above 6 per cent, and insisted that both plans propose to take away the fruits of enterprise and efficiency and give them to the less deserving roads, although the Warfield plan advocates deny this and say that none of the excess earnings of any road under their plan go to any other road.

Judge Lovett also discussed the Plumb plan briefly, saying it is "plainly an effort to Russianize the American railroads," but that so long as we have a constitution the railroad owners will be protected and that the public has the most vital concern in the dangers of the plan. Railroad employees, he thought, do not understand the plan, but when they do, he said, they will repudiate it. If labor is allowed to fix its own wages and hours, he said, it is obvious that rates will have to be increased or the people will have to suffer the consequences through increased taxation. "There would be no protection for the shipping and traveling public against extravagant operation and inefficient service. It is rather a bold move on the part of the American Bolshevik to take first for Russianization the one industry that affects all the people."

"The so-called railroad problem as it exists today is solely

a question of railroad credit," Judge Lovett said. "The question before Congress is to find how to get the capital necessary to keep up the railroad facilities which the country must have. Any legislation that does not accomplish that object is futile.

"New capital cannot be driven into railroads. It must be induced to enter. The mere request or invitation or desire of the government that investors should come forward and put their money in railroad improvements will not suffice. It is a business proposition. The government does not propose to guarantee the interest or the dividends. The investor must depend upon the net earnings under the regulations which this Congress is going to prescribe and decide whether he will risk his money in railroads or put it in some other business. If you have decided against government ownership, then it inevitably follows that your system of regulation must be such as to attract investors to railroads, or you won't get the necessary railroad facilities.

"It is absolutely necessary to understand some features of the commission's accounting rules in order to deal intelligently with the matter you have in hand. 'Net earnings' or 'net income' or 'profit,' as these terms are ordinarily used, means the amount remaining from the year's operations after paying all expenses of operation, maintenance and taxes, and is supposed to be applicable to investment as interest on bonds and dividends on the stock. The Interstate Commerce Commission has always so regarded it, and proceeds upon the assumption that the sum may be so disposed of. Legally and theoretically this undoubtedly is true, but practically it is far from the fact.

"Any railroad company that exercised this legal and theoretical right by distributing as dividends all this paper profit or 'net income' would soon come to grief and bankruptcy. Unlike manufacturing business or ordinary commercial business or any other business I know, the amount chargeable to maintenance and repairs under the Interstate Commerce Commission's regulations is not sufficient to make the renewals and repairs necessary to maintain the railroad property. The result is that a very substantial part of this reported and apparent net income at the end of the year has already been spent in renewals and replacements, and is not on hand in cash or any other form available for the payment of interest and dividends.

"This leads to the point I particularly desire to make, which is in connection with the much discussed proposition to confiscate the net earnings of all railroad companies in excess of 6 per cent. If the government is to take for itself or for the inefficient roads or others all in excess of 6 per cent, as proposed, I suppose, of course, it is intended that the stockholders will be entitled to distribute the amount, if any is left after the payment of interest, as dividends.

"The Supreme Court said in effect in the Lincoln Gas Case, decided only last June, that a return of 6 per cent was not enough. But I want to point out to you that it will be impossible for the owners to get even that under the scheme proposed. The 6 per cent which the company is to be allowed to retain as 'net earnings' will not be in cash, but a very considerable part of it will have been spent on the railroad.

"Under the accounting rules of the Interstate Commerce Commission, it is absolutely impossible to even maintain a railroad in running order without spending a very substantial part of the so-called 'net earnings' upon the prop-

erty. Practically all renewals and replacements involve charges to capital account. No railroad company, and certainly no progressive railroad company, renews main line rails without increasing their weight. Very few put down new rails of precisely the same weight as the old. Under the commission's rules, the additional weight and any improved fastenings must be charged to capital. Generally speaking, rail renewals involve a charge averaging probably 20 or 25 per cent to capital account.

"As to other renewals, it is even worse. When a railroad company renews a wooden trestle or other bridge, even in kind, it is required to charge the entire cost of the new structure under existing conditions to capital account, and deduct only the original cost of the ancient structure replaced, which, of course, is much less. So it is with every other structure replaced in kind; and where there is an improvement—as a larger or heavier bridge, or a stone or steel bridge, or a larger or better station or other building in place of an old—the charge to capital account is that much greater.

"What, then, will be the predicament of the railroad company, of the financially strong company, if you pass a law requiring it to pay over to inefficient railroad companies or to the government, all its net earnings in excess of 6 per cent upon the value of its property? It is assumed that after making such payment, it would have 6 per cent left—but not in cash—with which to pay its interest and its dividends, but a substantial portion of it in new rails, bridges, trestles, section houses, stations, coal chutes, water tanks, side tracks, yards, etc.

"I give it as my opinion based upon rather long observation that the average railroad company in this country must spend on an average each year an amount equal to 2 or 3 per cent upon the total value of its property for renewals and replacements of roadway and equipment and in wholly unproductive work, which, under the commission's accounting rules, is chargeable to capital account, in addition to ordinary maintenance.

"What is to become of even the strongest and best company and its credit, if at the end of the year it is required to pay over for the benefit of its weak and inefficient rivals, or to the government, all its apparent net earnings in excess of 6 per cent, and be left, not with cash that it may use in payment of interest and dividends, but with these expenditures upon which it cannot get cash? This is the practical difficulty from which there is no escape if you enact such a law.

"The suggestion which I understand was made by one of the lawyers advocating the Warfield plan, that everything earned in excess of 6 per cent must be deemed wrongful and as taken illegally from the shippers, is utterly preposterous. Six per cent is a minimum on questions of confiscation, but there is no statute upon the books of Congress, and no statute of any state in this Union, so far as I know or have reason to believe, that has ever declared that 6 per cent in any year shall be the limit of return upon any railroad investment. If Congress enacts any such law, it will be a radical and new departure in this country, and in my judgment, it will put an end to the flow of new money into railroad enterprises, for who will put his money into a business involving such enormous risks with no hope of reward in the event of success?

"In dealing with railroad capital, haven't we in this country been indulging in much loose thinking and loose talking as to the old expressions about railroad property being 'devoted to a public use' and its being 'affected with a public interest'? The Supreme Court has repeatedly declared that money invested in railroads is as much private property as money in a bank or as an investment in a home. It is subject to regulation, but not to confiscation.

"Too often and in too many minds, these expressions seem to have led to the delusion that there is some taint upon

railroad capital, that it is entitled to less consideration than other capital, that the stock of the banker, the manufacturer and merchant and all forms of corporate enterprise are sacred as private property, but the railroad investment has no rights which anybody ought to respect. We ought to correct that fallacy, for just the contrary is true.

"Capital invested in railroad enterprise is of the highest merit, and there is none more deserving. None is more essential to the public welfare. It is even more deserving of praise than money invested in government bonds, because the latter takes no risks. Unlike the older countries that were built up before railroads, this country was built on railroads, and it is absolutely dependent upon them. The need for additional railroad facilities grows with the growth of population and business. If the government itself is not going to furnish the money, then we must look to private individuals for it; and not only regard for their constitutional rights, but good policy and common honesty demand that they should be encouraged and protected, instead of being made the victims of every half-baked theory that unthinking and unmoral ignorance can suggest."

Judge Lovett said he had not much respect for the property investment account as representing the value of the railroads, because in some cases the accounts represent hard cash and in others almost nothing, because the par value of the securities was entered in the books although much less than par may have been received for them in cash. He insisted that a road's value depends upon what it can earn, particularly when its rates have been made or sanctioned by the government for years.

Representative Winslow asked Luther M. Walter, counsel for the Warfield plan, whether its proponents had taken into consideration the point made by Judge Lovett that part of the net income must be used for renewals and replacements.

"No," said Mr. Walter. "We provide for 6 per cent after all operating expenses are paid, according to the commission's rules, but we do not provide that the shipper shall pay any part of the capital investment. Our plan would not reduce the Union Pacific's dividend, but it would cut into its surplus."

Judge Lovett insisted that he was not talking about operating expenses nor new capital, but about the expenses incurred for replacements which merely maintain the property but which under the commission's rules must be charged to capital. Mr. Winslow said Mr. Walter had confirmed Judge Lovett's statement, but Mr. Walter insisted that the security owners are not asking for enough to pay for capital expenses out of earnings.

"I do not want to use intemperate language," said Judge Lovett, "but in my judgment any man would be a fool to put his money into a railroad under any such system as that. It would not attract capital into the railroads."

The present system of accounting, Judge Lovett said, results in constantly diluting the value of railroad securities if new securities are issued to cover replacements which merely maintain the property, particularly because there is a tendency on the part of operating officers to try to keep down expenses and not worry about the capitalization. He was thoroughly opposed to depreciation accounts except for equipment, and not very enthusiastic about that, but said that the practice ought to be uniform. He did not understand why the Interstate Commerce Commission has not established uniform rules. The Railroad Administration has considered doing so, and had prescribed a uniform rate on all new equipment, but it did not change the practice as to old equipment because the amount of depreciation was involved in determining the standard return. Expenditures that do not add anything to the property in his opinion ought to be charged to a reserve and paid out of operating expenses instead of being allowed to "pile up capitalization."

Unless a company had other resources it would have to use a part of its income to purchase equipment, he continued, because it is necessary to make an initial payment of 25 per cent and the equipment cannot be capitalized for more than 75 per cent of its cost.

The Warfield plan, Judge Lovett said, proposes to take the earnings over 6 per cent from a good road, whose stockholders may have paid 150, 175 or 200 for their shares, to make good the stock of a road which had been sold for 10 cents on the dollar and never was worth anything. "I was recently castigated in the newspapers for saying that," he said, "but it proposes to take money my road has saved to buy equipment for other roads and for the benefit of the labor of other lines. The Chamber of Commerce plan goes even farther and plainly says that the excess is to go into a fund for the benefit of other roads. A great many roads never will pay and never ought to pay; they ought to be reorganized and the losses pocketed. The government should not be asked to guarantee them to pay for their mistakes, but if it is to do so it should pay the bill itself, not take it from others. The Warfield plan does not mean recapturing earnings, as has been claimed. It means capturing savings; the net result of efficiency and economy. If it were desired to carry out such a purpose it might be done by an excess profits tax, the proceeds of which the government could appropriate as it saw fit, but it cannot be done as a regulation of rates, after the relation of carrier and shipper has ended, and it has ceased to be a matter of transportation or carriage. The carrier has performed its service at a legal, reasonable rate. The government may make reasonable rates and as low as it likes provided they are not confiscatory, but it cannot regulate the amount of money the railroad gets out of it. There is no reason in morals, and up to this time there has been none in law why the government should regulate earnings instead of rates. It is inconceivable that the government can make a rate and declare it reasonable and then say a railroad has to give up some of the money. If you want to tax it that is another matter."

Chairman Esch asked why there should be such a difference of opinion between the executives and the investors.

"It is very surprising," replied Judge Lovett, "but the term investors is rather broad. I don't know just who Mr. Warfield represents. I understand he has a wonderful following of investment bankers, large insurance companies and savings banks, but in my judgment he represents mostly bondholders. I know he doesn't represent the Union Pacific. I represent the Union Pacific and my directors are fully advised as to what I am doing."

In reply to questions by Representative Winslow as to whether the roads could be turned back without increasing their income Judge Lovett said it would be utterly impossible for the companies to take over their property and operate it at the present rates.

"Then isn't this committee confronted with a delicate question in proposing to return the roads, and shouldn't we hope that if the Railroad Administration raises wages again it will also provide the necessary rates?" asked Mr. Winslow.

"It isn't a matter of delicacy or hope; it is a necessity," replied Judge Lovett. "It is a question of the solvency not only of most of the railroads, but of many other institutions dependent upon them. This is no time for the popular Washington sport of 'passing the buck.'"

Representative Sims said there had been a good deal of objection because of the increase in rates last year and asked if there would not be a storm of opposition if they were increased again on being returned to private management.

"If we are going to have transportation in this country we have got to pay for it," declared Judge Lovett. "It can be paid for either by the traffic, as it ought to be, or it can be paid for out of the treasury, but no amount of popular

clamor will change the fact that you can't get it without paying for it in one way or another, and as the government increased the expenses it ought itself to raise the rates before the roads are turned back—unless it can reduce the expenses."

Representative Rayburn asked if the railroads would not be able to effect economies under private control.

"I should say that as long as the present scale of wages and prices continue they will not be able to. I don't see how any great economies can be expected as long as they stay up," replied Judge Lovett. He said that the increase in the number of employees was practically due to the adoption of the eight-hour day and that the Union Pacific is being operated by the same officers as before, but he had asked the federal manager how much he could reduce expenses if relieved from government control and he had replied that he didn't know how it could be done.

Judge Lovett also urged the necessity for the creation of such a body as the proposed Federal Transportation Board, although he said that personally he had favored a secretary of transportation. "If you are going to leave the question of the sufficiency of rates and facilities to a lawsuit between the railroads and the public," he said, "the future is hopeless. I have seen statements by four of the present Interstate Commerce Commissioners which indicate that they are not aware that there is any question of railroad credit. What hope is there for an investor to put his money in railroads under such conditions?"

Representative Watson said he had tried unsuccessfully to get from the Interstate Commerce Commission figures showing the decline in railway construction, and had finally got them from the *Railway Age*. He asked if the cessation of new railroad building was attributable to the regulation of the Interstate Commerce Commission.

"I don't charge it to the commission," said Judge Lovett. "It is the general situation of which they are a part."

Howard Elliott

Mr. Elliott said in part:

"In creating this great piece of industrial machinery under new, varying and oftentimes very difficult conditions, the government, in its regulating policy, the investors, builders and managers, in their financial and managing policy, and the leaders of organized labor have naturally made some mistakes. There has been competition between the nation, the states, individuals (both in and out of legislative halls) and executive commissions representing both the national and state governments in proposing plans for taxation, regulation and supervision. This competition has resulted in action being taken by the nation and the states which has gradually weakened the capacity of the railroads to live and grow as the country grows. There have been some unfortunate and unwise policies of railroad building and managing that have been magnified and distorted and have aroused some popular distrust. Labor leaders have called or authorized, and sometimes encouraged, strikes that were unfortunate for the men and the communities served.

"The system of private ownership and government regulation, however, was successful on the whole, and resulted in the development of the railroads and the country to a marvelous extent. This growth and development were steady and continuous until the system of regulation failed to respond promptly to changed conditions, the more expensive and luxurious methods of the people, the increased wages needed by employees, the higher cost of everything necessary for keeping the railroads equal to their task, including the higher cost of capital and rapidly increasing taxes, and lacked the necessary elements of protection and encouragement to the business.

"What has been accomplished under private ownership and operation in the past is good evidence of what can be accomplished in the future if private energy and initiative

are encouraged, repressive and conflicting regulation removed, and protective measures added to the regulatory system.

"Is it wise to attempt to improve the present difficult situation by radical measures that dislocate the machinery that has in the last 50 years accomplished so much for the country and all the people in it? Is it not wiser to correct the errors and weaknesses of the present system of private ownership and government regulation rather than to 'fly to evils that we know not of?' I believe it is. If so, in order to obtain the results needed for the protection and development of the nation it will be necessary to change and modify some practices and ideas that have long prevailed.

"The owners must assent to a larger measure of governmental control, but they should also have governmental protection and encouragement.

"The great railroad labor organizations must assent to some orderly way of settling disagreements over wages and working conditions, so that the railroads may continue to serve the public pending the adjustment of disputes.

"The government, in its regulatory practices, must be more responsive to changed conditions, and there must be protection of this great industry as well as regulation, and there must be no twilight zone between national and state authority.

"While the situation is very difficult and fraught with danger to the integrity of our institutions, it is possible that the way out has been befogged somewhat by the numerous remedies proposed. It is helpful, however, that all kinds of people have made various suggestions, and Congress has the great opportunity, duty and responsibility of clarifying the situation and of considering all the plans and producing by a process of elimination a bill that will represent the needs and thought of the nation as a whole and not of any one particular class or idea.

"If, as I believe, it is for the best interest of the Nation to go on for at least another generation and have the furnishing of transportation a business function subject to governmental regulation rather than to turn over the work to the government itself, then some general amendments to our present regulatory practices will, I believe, produce the results we all desire, especially if all those in authority, either in private or public life, will advocate patience, forbearance, and a spirit of helpfulness and hard work while all are going through the period of readjustment.

"It does not seem as if we can advance the cause of the Nation or of any individuals by reducing the productive effort of the country and creating a chaotic condition while Congress is at work on this important matter.

Confidence Will Return if

Definite Policy Is Announced

"I believe that if the country and the people can be made to feel that the United States has adopted a national transportation policy along the following lines, that the situation

will be vastly improved. Naturally, so long as discussion continues, people of all classes will be uncertain and unsettled.

"1. That the governmental regulatory machinery that has for the past 32 years devoted so much time and energy to correcting abuses and to a certain extent punishing the companies for past errors, shall now turn its abilities in part to the encouraging of our system of transportation so that it shall receive income enough from the rates charged to pay:

"(a) All costs and expenses, including reasonable wages in accordance with the constantly improving living conditions that we hope always to have in the United States.

"(b) Returns on the system as it exists today substantially equal to the present 'Just Compensation' until such time as the fair value of the property is determined, when the return should be based on that figure as finally determined.

"(c) Returns on new capital needed to expand the facilities (so that the public will at all times be well served) sufficient to obtain that capital

in the markets of the world; in other words, to put the policy and power of the government squarely behind the idea that any regulatory system to be adopted must not only correct abuses and prevent them, but foster and encourage the business and sustain the credit of the enterprise.

"2. That the present method of adjusting disputes over wages and working conditions for public utilities be abandoned and a sane method of deciding these questions be adopted and the strike abolished in the interest of the people as a whole and the forward movement of the country.

"3. That the Sherman law be modified so that consolidations and mergers will be permitted, subject to the approval of federal authority.

"4. That the federal authority be supreme as to all rates and regulations about rates, and as to securities and accounts; state commissions not to be abolished, but the Interstate Commerce Commission to be the regulatory

authority for these questions.

"If the Congress will assure the people that these principles are to be the law of the land, the support and good will of the people will come back and their mental attitude will be to encourage and build up the railroads just as much as to encourage and build up agriculture, banking, manufacturing and the various enterprises in which the millions in this country are engaged.

"As rates are the one vitally important part of the financial problem of creating conditions that will permit good service, wages and development of the properties, and also bring a fair return to the owners of the securities, the railroads should have the right to initiate their rates, or prices.

"The general level of rates should be such as to bring to a railroad sufficient revenue, under honest and capable management, to maintain the property in a progressive manner, pay operating expenses, including good wages, taxes, permit proper charges for depreciation and obsolescence, and other



Howard Elliott

reserve funds, a fair return on the fair value of the property, and provide the credit the railroads must have in order to furnish to the public the necessary facilities and service.

"Another most important element in arriving at a satisfactory adjustment of the situation is that of the wages and the working conditions of the large body of employees. Wages are taking directly more than 50 per cent of every dollar of revenues, and indirectly, through materials purchased, a good deal more than that. To arrive, therefore, at any satisfactory net income, wages must be considered in connection with rates.

"The labor question is, of course, one of the most serious and important confronting the whole world, the railroads in particular, and there must be a broad, human view of it and a spirit of 'give and take' by all classes of people. All good citizens desire to see wages and living conditions improve, but there is a limit to what commerce and industry can pay and survive. It is surely better to have reasonable wages and continuous employment than to force wages so high that industry languishes, for then the wage-earners themselves will suffer most of all.

"The man who puts a dollar of his savings into the transportation business does so knowing that his dollar is subject to the power of the government to make the rules and regulations governing the business. The man who decides to earn his dollar by working for the railroads should be willing to submit to reasonable wages, rules and regulations, just as much as does the man who puts in his dollar already earned. It is in the public interest to have the dollar invested regulated reasonably, and it is equally in the public interest that the dollar paid for service and the conditions of service should be regulated reasonably.

"To bring this about there must be some method devised for fair and reasonable governmental supervision and regulation of wages and working conditions, and such regulation should eventually receive the final approval from the same power that is finally responsible for the rates of fare and freight charges by the transportation agencies, so that the question of income with which to pay will be considered at the same time and by the same final deciding power as the outgo to be paid. Just as the government should have the power to veto the wasteful use of the railroad dollar to be invested upon which the public will be asked to pay a return through rates, so should the government have power to supervise wages and conditions of service, which ultimately are paid for by the public through these same rates.

"With the preservation of private ownership and management in individual systems of railroads there will be a better esprit de corps among the great army of railroad employees than if all became employees of the government.

"Capital may be timid, but it was bold enough in the last 50 and more years to create our great American railroad system. I believe it will be willing to go on with the work if it can be assured that the policy of the government will be to sustain the railroads in the legitimate conduct of their business and allow reasonable liberty of action and will encourage and protect this business, as well as prevent any abuses. The credit of the roads will come back when people understand that Congress has laid down the rule that a reasonable rate is also an adequate rate, sufficient to reflect changed costs, increased wages and a fair return upon the property; when Congress insists that some reasonable method of adjudicating controversies over wages and working conditions shall be written into the law of the land; and when the Nation insists that it is the duty of the government to preserve, protect and expand the transportation facilities of the country as well as agriculture, banks, manufacturers, commerce or other forms of individual activity.

"I believe the plan suggested by the railway executives is a reasonable, business-like and elastic one under which our national transportation system will grow, and which can meet the changing conditions of a growing country like the United

States. It preserves and encourages the initiative and energy of the American man that has done so much to build up the present system of transportation.

"It points the way to having the transportation system of the country adequate for its needs.

"It suggests the importance of a reasonable adjustment of controversies over wages and working conditions so that service to the public will be continuous.

"It retains reasonable and regulated competition as an incentive to good service and development along progressive lines.

"It permits the continuation, under suitable regulation, of any plans developed under governmental control that tend to eliminate waste and give improved service through unification of facilities, common use of terminals, co-operative methods, etc.

"It strengthens the regulatory powers of the government to make certain that abuses and wrong tendencies may be corrected and checked.

"It suggests a method of placing the influence and power of the government back of the credit of the roads, so that capital may be obtained for needed improvements and additions.

"It provides machinery of regulation, through a transportation board, Interstate Commerce Commission, regional commissions and state commissions that will be responsive, prompt, and that will safeguard the interests of the railroad users, the railroad owners, and the railroad workers.

"I am an optimist of the long future of the United States. I believe we are on the eve of the most important 50 years in the history of this country, or any country, and that we shall accomplish wonderful results if we exercise common sense, work hard, are thrifty and economical, and all pull together.

"It is very important to come to a conclusion this year as to the new railroad legislation. It can be done. When done, and with reasonable financial protection until the readjustment between income and outgo is completed, our wonderful American railroad system will start forward again on a period of development and service. These great highways, which are the arteries through which the commerce of the country flows, will be nourished and become elastic again. With co-operation between the railroad users, the railroad owners, and the railroad employees, and with reasonable liberty of action so that the American citizen can use his individual initiative and his tireless energy, the country will go forward to meet its great future better equipped than ever before.

In reply to Mr. Plumb's charges, naming the Burlington among others as having given stock bonuses, Mr. Elliott showed that its only issues of stock during the period mentioned had been 25,000 shares exchanged for convertible bonds and 98,000 shares offered to stockholders at par, which was slightly below the market price at the time so that the rights were worth between \$3 and \$4 a share. As to the New Haven, he said that all of its stock had been paid for in cash at par or at a premium. Mr. Esch asked that a similar statement be filed for other roads mentioned by Mr. Plumb.

In emphasizing the necessity for legislation to protect the roads during the transition period, which the executives' plan proposes to provide by a continuation of the guarantee pending a readjustment of the rates, Mr. Elliott pointed out that the railroads in the first half of 1919 earned only about 39 per cent of their standard return and that the New England lines had a deficit. If they were turned back in this condition, he said they would be earning practically nothing, in spite of the fact that the valuation reports now being worked out by the Interstate Commerce Commission will show both the New Haven and the Boston & Maine to be worth more than the par value of their securities. He added that the 100,000 employees of the New England lines are receiving good

wages, but that their 75,000 owners would be receiving nothing but for the guarantee. He thought a 25 per cent increase in rates would be necessary to meet the situation, and said he would prefer to have the rates increased to the proper level than to have the guarantee continued.

In reply to questions regarding the effect of freight rates on the cost of living, Mr. Elliott submitted some figures estimating the amount of the trade of the United States in 1918 as \$82,600,000,000, whereas the total railway revenues in that year were \$5,036,000,000 and the revenues from freight and milk were \$3,557,000,000, or only 6.1 per cent.

Referring to a question asked of a previous witness as to whether the railroads did not have a surplus of about one billion dollars, Mr. Elliott analyzed the surplus of the Burlington, which amounts to \$213,000,000, to show that very little of it is in cash or available. Of the total, he said, \$26,000,000 represents excess of current assets over current liabilities, of which \$15,000,000 is in materials and supplies, and \$187,000,000 has been invested in the property without capitalization, a saving of approximately \$3,300,000 a year for 64 years.

Mr. Elliott called attention to the fact that government operating of railroads does not prevent strikes, and he urged the importance of legislation to regulate labor unions as one means of preventing strikes. He suggested that they be incorporated and required to submit reports to public authority, that their strike votes be counted by public authority instead of secretly, and that the wives of the employees be allowed to vote. He also proposed that the right to strike pending an adjudication be taken away. He said the majority of the men he had talked with had told him they did not want to strike, but felt compelled to by the power of the organizations, and that when the employees of the New York, Westchester & Boston struck because they were not satisfied with a 25 per cent increase, the company had bona fide applications from enough men to fill their places who would accept the pay offered, but the company had feared to take them because of the threat of a sympathetic strike on the New Haven.

Mr. Elliott thought the railroads would be able to effect an improvement in economy and efficiency after expiration of federal control. He pointed out that railroads generally have come to the conclusion that the divisional system of organization produces the best results because it enables questions to be settled at division headquarters without referring them to general officers, but that the Railroad Administration has adopted the departmental form of organization, with inspectors that are sent out from Washington to go over the heads of the officers on the ground. He said the railroads may not be able to get an immediate increase in efficiency, but that they might be able to stop some of the decrease in efficiency. However, they would have to take up "a lot of lost motion" and do an enormous amount of work to get the equipment and other property in good shape. "It will take a little time," he said, "but closer supervision in time will give better service for less money than you can get out of the present highly centralized organization, although it is made up of the same men."

Mr. Thom's Argument

Alfred P. Thom appeared before the committee on August 21 and 22, and then allowed his argument to be interrupted while Judge Lovett and Mr. Elliott and other witnesses testified. He resumed his argument on August 26, discussing the legal phases of the plan proposed by the railroads and explaining the provisions of the bill, which he said was not intended for introduction in Congress, but merely to put in the specific language of a bill the details of the plan. Regarding the proposed Federal Transportation Board, he said:

"We don't propose to put this body in a position superior to the Interstate Commerce Commission. We make its cer-

tificate subject to be overruled by the commission for cause, but we give the commission the aid of the recommendations of an independent public body as to what policy is in the public interest.

"The problem before Congress is to present a system that will appeal to the private investor in the future. To prevent oppression or extortion by discriminatory or unreasonable rates is easy enough. That is no longer your problem. The system of railroad regulation heretofore has turned always on the question of trying to control rates. That has been the single object up to this time, but that is based on the assumption that a sufficiency of the facilities and service the public needs was assured. That has been the radical oversight in our policy of regulation. Something must now be done to give the public that assurance. Our first object is to lift up to its proper place the importance of facilities and service.

"When the railroads go before the commission to urge the need for adequate rates we cannot divest the proceeding of the character of a controversy between selfish private interests and the public as represented by the shippers who oppose higher rates. We recommend that you appoint a governmental body to determine what the public as a whole needs in the way of facilities and service and what is necessary to get it."

Representative Winslow asked what kind of men should be appointed on such a board.

"Men of the highest character and ability, the best men it is possible to get, and paid sufficiently to get the best men," replied Mr. Thom. "They should be men of large business experience, but not necessarily of railroad experience; in fact, I should rather prefer that they be not railroad men, who might be hampered by previously conceived ideas."

"We take away no powers from the Interstate Commerce Commission," he continued, "but instead of proposing a definite rule of rate-making, that rates shall provide a certain percentage of return, we have preferred to leave the determination of what is required in the hands of an impartial body, to see that we have enough revenues in order to serve the public properly, and that we do not have too much. We have not felt justified in recommending to you a system of rate-making that isn't flexible enough to respond to changing economic conditions. I have never found anything but difficulty in trying to put economic conditions in a straight-jacket."

Mr. Thom also laid stress on the contention that the proposed board would be more free from the pressure of popular clamor or the fear of a hostile attitude in Congress than the Interstate Commerce Commission, but various members of the committee dissented from this view. Chairman Esch said the commission had been singularly free from any attempt to influence it, and Mr. Sims pointed out that it would be practically impossible to create a body that could not be subjected to whatever influence might result from the ability of Congress to cut off or threaten to cut off its appropriation. He said that a Senate committee had recently proposed to omit the appropriation for the Federal Trade Commission because it disapproved of its attitude. Mr. Sweet also said that the proposed board would be charged with matters of business policy of such a character that its duties could not be rigidly prescribed, and that its policy would be largely a matter of opinion on subjects likely to become political questions.

In discussing the proposal that the federal commission be given exclusive jurisdiction over rates, Mr. Thom read a letter sent him by the late Theodore Roosevelt, expressing the opinion that it was wrong to permit states to neutralize the action of other states or of the federal authorities, and declaring that "everything connected with interstate business should be a purely federal matter."

State interference could be prevented immediately by Con-

gress taking charge of the whole field, Mr. Thom said, and the whole rate structure should be under the jurisdiction of the Interstate Commerce Commission, so that "a state that wants good railroads will not have to contribute for the benefit of the commerce of a state that doesn't want to pay for good railroads."

In order to protect local interests and to prevent too great a centralization the plan proposes regional federal commissions, with the right of appeal to the Interstate Commerce Commission in some cases. Mr. Esch asked if this was not open to the objection that it interposes one more source of delay before a final determination. Mr. Thom insisted that the regional commissions would expedite matters because they could pass on minor cases much more promptly than the commission at Washington, and could also reach a decision on more important matters in less time than is now required to send an examiner and for the preparation and consideration of his report.

Mr. Thom said the proposal of the Warfield and other plans to distribute all or part of the excess earnings over 6 per cent is based on the assumption that there may be excessive earnings; whereas, he argued, the power of Congress to regulate rates is to prevent their being oppressive or extortionate as to individual transactions, not to regulate earnings from the business as a whole. He said the Supreme Court has held that the reasonableness of rates is not to be determined by the aggregate of the profits of a railroad.

"There is much confusion of thinking on this point," he said. The legislature never attempts to place a limitation on a carrier's earnings. It always approaches the subject from the standpoint of its power over rates. The question of the amount of the earnings has been introduced by the courts in holding rates unreasonable when they produce less than a fair return, and some persons have jumped to the conclusion that the legislature itself could fix maximum earnings. No branch of the government has the power to limit earnings, except by taxation. Earnings depend upon rates and not rates upon earnings, and the government cannot declare a rate reasonable and then take away part of the proceeds on the ground that the volume of business and the number of services performed at reasonable rates result in unreasonable earnings."

The necessity for legislation which will protect the railroads during the transition period immediately following their relinquishment from federal control and until the proper relationship between their revenues and expenses can be established was strongly urged by Mr. Thom. He pointed out that this relation has been thrown out of all proportion by the enormous increase in expenses during the period of federal control, which has caused a loss to the government of a million dollars a day in its operation of the railroads, or \$546,000,000 in the 547 days of federal control up to June 30 this year, and that it is the duty of the government to tide the railroads over until they shall have had time to restore a condition of economy and efficiency. For this reason the railway executives ask that the present guaranteed standard return be continued for not exceeding a year until the Interstate Commerce Commission, in consultation with the director general of railroads and the proposed Federal Transportation Board, shall have readjusted the rates so as to restore the equilibrium between revenues and expenses and make the railroads again self-supporting.

Mr. Thom said he was not discussing the causes for the great increase in expenses, but that his concern was for the future, although he declared that "the disappearance of morale which is inevitable in a government operation, has been one of the factors. "When the railroads come back," he said, "I believe that after a time they can make a great improvement and get back to a condition which will make for economy and efficiency, but there must be a period of transition during which the morale impaired by government

control is being restored. We are now confronted with expenses that we can't put down and with a degree of disorganization of forces which we must for a time inherit.

"Whose obligation is it to restore the relation between revenues and expenses which has been disturbed by the government? Is it the obligation of the owners? If the government seeks to unload that responsibility on us and place on us the onus of responsibility before the people of increasing these rates will it be doing the fair thing?"

"The railroads must have the good will of the people. Isn't it better that the government itself undertake the duty of correcting the situation in the way best justified in the public interest? So we ask that you command the Interstate Commerce Commission to study the proper relation between expenses and revenues and do the thing that is necessary, and that the guarantee be temporarily continued, instead of leaving a trail of bankruptcies that would destroy the financial system of the country."

In reply to a suggestion that 75 per cent of the guarantee be continued, Mr. Thom pointed out that this would not help the roads, whose guarantee now represents their bare requirements and that 75 per cent of the standard return would be \$88,000,000 less than is required for interests and dividends for the railroads as a whole.

Mr. Thom also urged provision for funding for a period of ten years the large indebtedness of the railroads to the government for capital expenditures for cars and locomotives and other additions and betterments. Speaking generally for the railroads as a whole, Mr. Thom said, it will be impossible for them to pay this amount at once, because it represents the kind of expenditures usually provided for by long term securities.

Laws to Prevent Strikes Urged

Charles Piez, president of the Illinois Manufacturers' Association, and George A. Nutter, representing the Boston Chamber of Commerce, appearing before the committee on August 21, urged the importance of legislation to settle wage disputes and to prevent the danger of strikes. Mr. Piez said in part: "In order to carry out our view that the rights of the public are paramount, and therefore that interruptions of transportation by strikes or lockouts must not be permitted, we recommend an addition to the act which will empower and instruct the Interstate Commerce Commission to appoint and provide the necessary organization and funds for an arbitration board consisting of six persons, two to represent the public, two to represent railroad managements, and two to represent railroad employees. This board shall, when appealed to by either side of a controversy, or upon failure of the carriers and their employees to agree, investigate and make a finding which shall be final and conclusive to both parties, subject only to final appeal to the Interstate Commerce Commission. As a part of the machinery thus created the employees of common carriers upon taking service with common carriers, shall, as a part of the contract of hiring, accept the provisions of the act and subject themselves to the findings of this body and waive the right to strike. The right of any individual employee to resign permanently from his employment shall not be denied."

In reply to the objections stated by Commissioner Clark in his testimony before the committee to the idea of the commission being given any responsibility for wages, Mr. Piez insisted that it is essential that some one having responsibility for the amount of revenues have a voice in the fixing of wages. He said the Emergency Fleet Corporation had made a serious mistake in surrendering all control over the amount of wages that constitute so large a factor in its cost of production and that the Chicago packers and clothing industries had made the same mistake. The railroad employees, he said, are strong enough politically to have no

reason to fear to accept such a plan as he proposed. In conclusion, he said his association wanted to record its objection to the Plumb plan, but he did not take time to discuss it.

Mr. Nutter presented the results of a referendum taken by the Boston Chamber of Commerce in which the members had put themselves on record by large majorities as being in favor of private ownership and operation of the railroads; against a regional reorganization of the roads; in favor of a return to corporate operation at once with a continuation of the guaranteed standard return for the balance of this year and with provision for an increase of rates, the increased revenues to be placed in a fund administered by the government and to be used in making up any deficiency as compared with the standard return during 1920; in favor of a direction to the Interstate Commerce Commission to authorize a rate structure sufficient to pay a reasonable return; in favor of regional commissions, representation of the public on boards of directors, consolidations and joint use of facilities, supervision of security issues, and the creation of a wage tribunal and the prohibition of a strike pending its decision.

Alba B. Johnson, president of the Railway Business Association, appeared before the committee on August 25 and presented the statement which is published elsewhere in this issue, urging the creation of a Federal Transportation Board and a clear instruction by Congress that rates shall be adequate to insure the development of the railroads. During the reading of the statement Representative Sanders asked how the volume of railroad purchases had compared during the period of federal control and under private management. Mr. Johnson replied that there had been a very large reduction in purchases since federal control. Mr. Johnson was not questioned by the committee regarding the points brought out in his statement, although numerous questions were asked about the cost of locomotives and their repairs.

Land Grants

S. T. Bledsoe, general counsel for the Atchison, Topeka & Santa Fe, replied to the "charge" made by Mr. Plumb that the railroads had received land grants, a form of charge which in past years has been very popular with people seeking grounds on which to attack the railroads. Mr. Bledsoe admitted the soft impeachment that millions of acres of lands had been granted to railroads to induce them to build and added some additional information.

"There was not the slightest element of donation involved in any federal land grant," he said. "It was a clear-cut trade between the United States and the railway company, or between the United States through the instrumentality of the state and the railway company, whereby the government agreed to grant so much land in consideration of the construction of so many miles and in its operation by the grantee. Each and every grant was highly beneficial to the government, and the great majority of the grants proved extremely burdensome to the roads receiving them. That is to say, the government fully reimbursed itself for the value of the lands granted by doubling the selling price of the alternate sections reserved; every land grant railroad of the United States is now transporting over its land-grant mileage the property of the United States and its officers and employees at 50 per cent of the established tariff rates, and must continue to do so in perpetuity; and the land grant roads are now carrying and must carry in perpetuity the mails of the United States over the land grant mileage for 80 per cent of the compensation fixed for non-land-grant roads. In addition, the states in many instances imposed further obligations, as a condition to pass the grant received by it to the railway company. An instance of this is the 5 per cent gross receipts tax imposed by the state of Illinois on the Illinois Central.

"The amount which the government has received from

various land grant roads in the form of reduced transportation and in reduced mail costs has not been ascertained, and can only be estimated. It has, however, been substantially in excess of \$75,000,000. The Interstate Commerce Commission is now requiring each carrier which owns a piece of railroad property in aid of the construction of which land was granted, to report in the most complete detail the information required by the federal valuation act. However, the process must be somewhat slow, because many railroads were not able to financially survive the efforts and expenditures necessary to construct the mileage required to secure the benefit of the lands granted to them. In almost every instance construction of the lines was into territory where substantially no traffic existed. The operation of a railway in the absence of existing traffic is a most hazardous undertaking. Bankruptcy followed this effort as to many of the land grant roads. Such grants, therefore, passed from the companies to which they were made to other companies, and sometimes there was a second failure, reorganization or sale, and they passed into the hands of a third company. Some of those engaged in the conduct of public agitation against railroad companies discuss the land grants in the light of the value today and fail to mention the value at the time the grant was made, the obligations imposed upon the railroad companies in accepting the grants, and the fact that the acceptance of many of them resulted in financial disaster.

"Perhaps the only facts not submitted to the jury of public opinion are those showing how inadequate the grants were when compared with the obligations assumed by the railroad companies and how the construction of the roads in pursuance of the obligations assumed in the grants resulted in financial ruin."

Mr. Bledsoe also discussed various features of the railway executives' plan, which he said was the most flexible and workable that has been presented and the only one which attempts to prescribe a definition of a reasonable rate. He also advocated strongly the federal transportation board, saying that now in order to secure a needed increase in rates it is necessary for a road to present to the Interstate Commerce Commission a state of facts that discredits the financial standing of the road and makes it difficult to sell securities because in order to get the rate increase "you have got to prove you cannot survive without it." He also urged the importance of continuing the standard return pending a rate readjustment because the President has indicated that he does not, for the time being at least, contemplate an increase in rates. He added that the stockholder has had no increase to meet the high cost of living. Mr. Bledsoe also answered vigorously some of the arguments made by Luther M. Walter in his advocacy of the Warfield plan, which Mr. Bledsoe said is thoroughly destructive of the property rights and security values of those roads that have heretofore been regarded as successful and the securities of which constitute a large part of the assets of life insurance companies, savings banks and other conservative investors.

Judge Anderson Proposes Unified Railroad System

George W. Anderson, United States district judge at Boston, formerly a member of the Interstate Commerce Commission and the principal author of the present federal control law, appeared before the committee on August 27 and proposed a plan for a unified United States Railroad, combining features of both the Plumb plan and the Amster plan. In describing the plan Judge Anderson said in part:

"Charter a federal railroad company, with very broad powers, including, inter alia, eminent domain to take existing transportation facilities, as well as land, etc., for additional facilities, stocks, bonds of existing companies, or any other kind of needed property with power to issue stocks and bonds for cash at par or for exchange with present security

holders; also to guarantee interest and principal of outstanding bonds.

"This corporation might well be managed by a board of, say, 15 directors, elected and appointed for, say, terms of 5 years each, so classified that the term of one of each class shall end each year. Five of the directors should be elected by the classified employees under by-laws, approved by the Interstate Commerce Commission. Five should be elected by the stockholders and represent capitalistic and profit-seeking interests. Five should be public directors, probably appointed by the President, probably from both political parties and confirmed by the Senate and required to have no financial interest in the stock of the company. This board should have broad, general, managerial powers, including the power to provide for regional administration as they may think wise and experience may dictate. The United States R. R. Co. should be capitalized, not less than 25 per cent nor more than 40 per cent in capital stock, the balance in bonds. The capital stock should have a standard dividend rate not less than 5 per cent nor more than 6 per cent, cumulative—such rate as will fairly ensure par market values in all normal times. Probably new issues for extensions and additions should be distributable to outstanding stockholders at par, although the stock would in ordinary times undoubtedly sell at a substantial premium. But it is desirable that there should be an adequate incentive to spend new money for needed and useful railroad development.

"I think, although this is not free from doubt, that the government should guarantee an annual dividend on this stock, possibly of 4 per cent, not less than 3 per cent. Such guarantee would, in my present view, cost the government nothing; it would stabilize the financial market, improve the credit of the company, and reduce the ultimate capital cost of our transportation facilities.

"Any surplus profits above operating expenses, fixed charges, and standard dividends should annually be divided into thirds:

"(a) One-third for the benefit of capital, applicable to an additional dividend up to a reasonable maximum, probably 7 per cent. Any balance of this $1/3$ accruing in fat years should be held in a reserve for the purpose of providing for the payment of the standard dividend in bad years.

"(b) One-third as a dividend to labor on a properly classified schedule.

"(c) One-third for strictly public uses; at the outset perhaps to pay for the government's advances hitherto or hereafter to be made during the transition period, thereafter for such public purposes as Congress may authorize by statute or through the U. S. R. R. Co. and the Interstate Commerce Commission.

"Given a single federal railroad company, with broad powers and organized substantially as above, the present roads might well be taken over substantially as follows:

"An offer should be made to the stockholders of the chief roads to buy their stock by exchanging stock of the U. S. R. R. Co. in such amounts as to give to the present stockholders a return reckoned on the standard dividend of the new stock not greater, and perhaps, considering the greatly improved quality of their security, somewhat less, than that which has accrued to stockholders from the regular dividends paid during the period of federal control. To illustrate: If the standard dividend of the U. S. R. R. Co. stock is 6 per cent, Pennsylvania stockholders who have been receiving 6 per cent should be offered a chance to swap on terms not better than share for share. Northern Pacific stockholders who have been receiving 7 per cent would be given a like return by receiving one and one-sixth shares of the new stock for each share of their old stock. New York Central stockholders would have five-sixths as

many shares of the new stock as of their present stock. In my present view, the new stock will be so much better than the old stock that the government ought to get some diminution in rate from the regular dividends paid even by the best of the railroad companies during federal control.

"At any rate, an offer should be made to existing stockholders so just and fair that the great majority of them would be glad to accept it. The rights of dissenters should be taken care of by due process of law substantially as are dissenting stockholders in ordinary cases of consolidation.

"No plan for the reorganization of our railroad system has any reasonable prospect of success that does not recognize the fundamental need of a radically changed status for labor.

"Labor must be given just and proper representation in the initial management of the roads, and assume a responsibility for the uninterrupted, efficient, economical and progressive development of the rail facilities—entirely different from that which has obtained hitherto when the railroads have been run by corporations, organized for profit, and by labor unions, organized for economic war. Full recognition must be given to the fact that the men who contribute faithful, efficient and long-continued service in the transportation industry are as much entitled to representation in the management thereof, and must be held as responsible for the wise exercise of managerial powers, as are the contributors of capital used to pay for the railroad facilities.

"The present status of irresponsibility and consequent threatened interruption of railroad service, together with the utter lack of proper incentive for efficiency and economy in the management and operation of rail facilities, is practically admitted by all to be intolerable. The only plan now before Congress which really undertakes to meet this essential difficulty is the Plumb plan, and that plan offers, in my view, a remedy which may not improbably be almost, if not quite, as bad as the disease that it undertakes to cure.

"Labor is entitled to a large and influential position in the management of our transportation industry. It is not entitled to control that industry, either as proposed in the Plumb plan, through management of the corporation administering the rail facilities, or as is potentially involved in the present system through the domination of extra corporate organizations called labor unions. The railroad business is a public business. It must be managed by, and controlled for, public interests. Until that fundamentally important principle is recognized and sought to be made effective, there will be neither peace, security, nor progress in our transportation field.

"I propose to meet this difficulty by providing that in the contemplated unified United States Railroad Company the classified employees shall elect one-third of the directors or governors. In addition the law should provide for a competent and impartial tribunal to deal with all wage and other labor controversies, its decision to be final. Labor should also have a one-third profit-sharing interest in any surplus profits above standard dividends.

"Given, then, a fair share of initial managerial responsibility, a competent tribunal to determine all labor controversies, a profit-sharing interest in the business, combinations of employees in restraint of trade must be made illegal on the railroads, as are like combinations of capital in general industry. Strikes are combinations in restraint of trade. They are now legal. With this radically changed labor status, labor would need no such weapon, and they must, on the railroads, be made illegal, their illegality to be dealt with by the courts of equity and the courts criminal, substantially as are illegal capitalistic combinations in restraint of trade.

"But the right of the individual employee to leave his employment, even if he breaks a contract, should remain inviolate. The railroad employee should be as free (and no freer) to break his contract as is the capitalist."

Representatives of the state commissioners were to follow Mr. Anderson, after which it was expected that Mr. Walter would return to answer some of the attacks on the Warfield plan made by the representatives of the executives.

At a party conference of the Republicans in the House the railroad question was given a prominent place in the legislative program for the session. Chairman Esch, of the Interstate Commerce Committee, said it would probably be three weeks before the hearings on the railroad legislation would be completed.

Orders of the Regional Directors

FEDERAL TAX ON LONG DISTANCE TELEPHONE MESSAGES.—The Southwestern regional director in Order 230 quotes a letter from the Commissioner of Internal Revenue, stating that telephone messages directly connected with the operation of railroads under federal control are not subject to tax. The Northwestern regional director has issued a similar order, Supplement 4 to Circular 59.

Secret Service Department.—Order 231 of the Southwestern regional director states that Charles Weinbrenner, recently appointed inspector in the Southwestern region representing the Secret Service and Police Section of the Division of Operation, will co-operate with special service departments in every way possible. Chief special agents should forward to him copies of their reports relating to important cases of theft.

Shippers' Export Declarations.—Supplement 1 to Order 110 of the Southwestern regional director states that it will hereafter be necessary for shippers to file but two copies of shipper's export declaration covering shipments to foreign countries.

Roadmasters' Convention.—The regional director of the Central Western region issues similar instructions to those issued by the Eastern regional director in Circular 102-42 (*Railway Age*, page 316, August 15).

Grain Embargo, Primary Markets.—Supplement 7 to Circular 83, canceling Supplement 6 thereto, states that grain that is included in permit regulations when reconsigned from destination originally named to a primary market will require an individual permit from the primary market to which reconsigned. This will include:

1. Cars shipped from one country station to another and reconsigned thence to a primary market.
2. Cars shipped from a country station to a primary market on road or blanket permit basis, and before reaching that market reconsigned to a different primary market.
3. Cars shipped to a primary market and afterwards reconsigned to another primary market.

National Railroad Accident Prevention Drive.—The Northwestern regional director, file 97-1-20, promulgates a letter from the director general with reference to the "National Railroad Accident Prevention Drive," October 18-31. (*Railway Age*, August 15, p. 326.)

Export Bills of Lading.—The Southwestern regional director in Circular 240 issues revised instructions governing the issuance of through export bills of lading via North Atlantic ports. The Southwestern regional director in Circular 241 issues revised instructions governing the issuance of through export bills of lading via Pacific ports.

Parcel Post Weight Limit.—Circular 242 of the Southwestern regional director quotes the order of the postmaster general fixing the limit of weight for surplus food products and other supplies under the control of the War Department, placed on sale to the public by that department and distributed to the purchasers through the parcel post service, at 125 lbs.

Special Agents' Organization.—Circular 243 of the Southwestern regional director announces the organization of the Southwestern Regional Association of Chief Special Agents,

the object of which is to promote co-operation between the special service departments of the various lines in the Southwestern region. The first meeting of the association will be held at Galveston, Texas, August 27.

Pay and Vacations of Train Dispatchers.—Supplement 13 to Circular 28 of the Northwestern regional director states that, because of the rather indefinite status of train dispatchers in the past, they appear to have suffered the disadvantages attached both to officers and employees without enjoying the advantages attached to either class; and in view of the exceptional importance of the work of train dispatchers, the men should be classed as officers and given fully the consideration due to officers. Instructions are issued to insure train dispatchers the same treatment accorded other division officers.

Industry Tracks.—Supplement 12 to Circular 33 of the Northwestern regional director quotes Supplement 2 to General Order 15 issued by the director general and providing that in the absence of a written contract as to the maintenance of an industry track laid prior to March 26, 1918, the practice of the connecting carrier prior to federal control, as applied to such track of any particular industry from the beginning of its use by such industry, shall be considered as equivalent to a written contract in accordance with such practice. While contracts are desirable covering side tracks constructed prior to federal control and not previously covered by written agreement, the execution of such contracts is not now required by General Order 15. The rails and fittings in that portion of the track required to be paid for by the industry may be leased to the industry with rental at 6 per cent on the current market value of the material, provided good and sufficient security is furnished to cover the return of such material and that the rental be paid annually in advance.

Inspection and Testing of Stationary Boilers.—The Southwestern regional director in Circular 245 states that Rules 6 and 7 of Mechanical Department Circular 11, dated November 11, 1918, are modified as follows:

"Where two or more boilers are connected in parallel to one steam main, the maximum period between the testing of steam gages and the testing of safety valves will be six months. These tests should be made at the time the annual inspection certificate (Form MD-27) and semi-annual inspection certificate, (Form MD-26) are prepared."

The Northwestern regional director in file 67-1-8, issues similar information.

Issuance of Through Export Bills of Lading Via North Atlantic Ports.—Supplement 1 to Circular 240 of the Southwestern regional director states that paragraph 6 of Circular 240, which reads: "Ocean charges should be collected by steamship lines and bills of lading should read 'Ocean charges collect,'" has been amended as a result of advice from the office of the Director of the Division of Traffic so that there is no objection to accepting prepayment of ocean charges in instances where shippers desire to prepay.

Application of Floor Racks in Refrigerator Cars.—Circular 244 canceling Circular 225 of the Southwestern regional director (*Railway Age*, page 108, July 18), states that in order to reduce the loss of perishable freight in transit particular attention must be given to insure proper ventilation in refrigerator cars used for that purpose, and calls attention to the necessity for carrying out the provisions of Circular 225. Authority is also extended to provide for the application of floor racks under the conditions outlined in Circular 225 prior to securing the consent of the corporate officer. Any program should include only that work which will be finished in time to put the cars in service prior to January 1, 1920.

Roadmasters' Convention.—File 8-1-8 of the Northwestern regional director similar to Circular 102-42 of the Eastern regional director (*Railway Age*, August 15, page 316).

Master Blacksmiths' Hold Twenty-Fifth Convention

Papers on Heat Treatment of Steel, Autogenous Welding, Spring Making and Shop Equipment

METHODS OF SECURING increased production in the shops and increasing the service secured from forgings were the principal topics discussed at the twenty-fifth convention of the International Railroad Master Blacksmiths' Association, held at the Hotel Sherman, Chicago, on August 19-21. The convention was opened with prayer and an address of welcome, following which the president, W. C. Scofield, delivered an address which reviewed briefly the developments since the last meeting in 1916.

President's Address

Mr. Scofield said in part: "In reviewing the great world conflict, our craft can with reasonable pride look at the many monster guns, munitions and engines of war, and know that their ingenuity and brawn helped in making these mighty implements. In the present upheaval let us forget the fallacies of socialism, the ignorance of bolshevism, and the utter nonsense of the soviet, and return to the principles of our fathers and realize that the safety of our institutions, the success of country and the happiness of our home, depend not so much upon how much we can get, but upon how much we can do.

Cost Accounting in Blacksmith Shops

By G. F. Hinkins

Westinghouse Air Brake Company

A paper touching on the history of the association and the duties and responsibilities of its members was submitted by G. F. Hinkins. In concluding his paper Mr. Hinkins made a plea for more thorough methods of computing the cost of work, which is given in part below:

As a rule, the foremen blacksmiths have every qualification for handling shop work. By that, I mean that they possess executive and mechanical ability, but how many understand the fundamental principles on which their business is conducted? Of course, they can tell the flat labor cost of their product, but do they know the overhead expenses? This is a very complex proposition. The overhead for making a flat chisel is much less than the overhead for making an intricate drop-forging, by reason of the high first cost and upkeep of the dies. The overhead expense of producing different forgings varies in accordance with the nature and shape of the forging, as the shape of the forging will determine the cost of both the drop forging and trimming dies. Drop forgings on account of their shape and refinement will influence the life of the die. The maximum output from a set of dies will vary from 10,000 to 50,000. In order to get the cost of the product, it is necessary to get the first or original cost of the dies and also the number of times the dies are dressed before they are worn out and the number of forgings made from these dies. It will be perceived from the foregoing that everything that is necessary to produce a forging must enter into the cost of that forging, every detail operation must enter into it.

There must be business methods for ascertaining the true cost of doing work, especially if manufacturing is being done for the market. If a furnace needs repairing and the brick mason helps himself to a load of fire brick to repair it and does not charge the brick against that furnace, then some part is not charged for something it did get and some other

part is paying for something it did not get. The upkeep of the various types of equipment, such as steam hammers, drop hammers and forging machines will differ and the expense for repairs must be kept separate, which is done by charging such items against the individual machine. Every machine and furnace is designated with a shop or machine number so that all repairs and renewals are charged against the equipment. In this way, the cost of maintenance of every machine and furnace is known. This is a necessary feature of a cost accounting system which gives the cost of any manufactured article. You may manipulate your charges as you please, but you cannot get away from the cost. Your firm pays the bill.

Drop Forging and Its Possibilities

By J. D. Boyle

The following is an abstract of the paper on this subject: "Steel is not a simple substance like pure iron, gold or copper, but a complex artificial substance. It is composed of groupings of elements which enter into its makeup. These elements are only visible with the aid of a microscope. The term micro-structure has been given to what is thus brought to view. Upon polishing and etching a piece of steel the structure is apparent through the action of the etching medium (acid or other corrosive materials) which affect the elements differently, causing each to assume a color or structure peculiar to itself.

When steel is heated to above its critical point for the forging operation and submitted to blows under the hammer, the molecules of the metal are forced apart. To bring the steel to its greatest maximum strength a proper scientific heat-treatment is needed. This is accomplished with proper furnaces, heat measuring instruments and trained workmen. With all the above-mentioned facilities, automatic signal pyrometers, well-designed cooling systems and semi-muffle furnaces designed for this purpose should be used. Heat-treating departments of this type are built to insure quality and progressive production. The materials going into the vital parts of a locomotive should be subjected to a chemical analysis and a heat-treatment applied. After heat-treatment, test specimens should be taken to determine the physical characteristics.

DISCUSSION

H. E. Gamble (Penn.), told of the wide variety of work made under drop hammers. At the Juniata shops hammers ranging from 1,500 to 12,000 lb. are in use, and the capacity of the largest size has been overtaxed. All reciprocating parts for locomotives are heat treated after they are drop forged. G. Fraser (A. T. & S. F.) stated that a steam hammer could be used for drop forge work by making dies similar to those used in the drop hammer. The dies are held in a box tool secured by a band and hung in the frame. Several members stated that this method was being used with satisfactory results. O. Schutze (C. M. & St. P.) told how drop forge dies had been adapted to use in a Bradley hammer for making spring hanger gibs. Ample clearance must be allowed to dispose of surplus material, otherwise the dies will have a short life. Attempts to make drop forgings under a hydraulic press had proved unsuccessful. There was some discussion regarding the best material for piston

keys, and it was agreed that tire steel was the most satisfactory for this purpose.

The Heat-Treatment of Iron and Steel; Purposes and Results

By George Hutton
New York Central

Heat treatment as pertaining to railroad work in railroad shops seems to have gone backward during the past three or four years. When first introduced on locomotive work, it was thought this method was going to create a great improvement in the quality of forgings over the hit or miss method. The method in vogue today is for the forge shop to construct the different forgings and send them to the various departments to be machined to size and then applied to the locomotive without any record or any means of knowing if these forgings are of equal strength or of uniform quality.

These are the conditions today. In forging side rods, piston rods, rod straps or any piece of work that may be important, you endeavor to have these forgings made up by the best workmen you may have, and to exercise great care in heating and hammering them. You may also be cautioned and caution your men to have them carefully annealed and laid on the floor stacked in such a way as to cool off equally, so that machining may be best accomplished. When you have carefully looked after this you have forgings that will only stand up to a strain equal to the strength of annealed material. Remember, annealing weakens forgings.

You will remember when vanadium steel was introduced in railroad work about the time when heat-treatment was also introduced or brought into shop practice. Why was heat-treatment confined to the alloy steel only? The steelmakers furnished a steel which, if no heat-treatment was applied, would not be any better or any different from the annealed open hearth steel generally in use before the time of alloys or the open hearth in use today.

You have, no doubt, noted the breakage of heat-treated alloy steel forgings that may have come to your shop off the road, and I am positive in my opinion that your verdict was, "Too hard; brittle; too hot when quenched; not drawn back enough," and this is exactly what has set back or almost killed the wonderful results of heat-treatment, especially on alloy steel. The average results of this method has been a sacrifice of elasticity for tensile strength. I am of the opinion that when the alloy steel was introduced, it was never meant that forgings should be treated to such an extent that breakage was the natural result, and certainly this has been the case.

During the 1915 convention in the discussion on heat treatment, one member remarked that if we make our forgings, get the proper heat and proper hammering we would have much better forgings than any of the heat treated ones. If we could only attain efficiency of that kind the whole problem would be solved. But who are the craftsmen who could do it and put it in effect in all our smith shops? There is too much left to guesswork when that method is compared to heat-treatment. When heat-treatment was introduced the main object was to get strength, durability and uniformity, and also to reduce the weight of forgings and castings, and to a great extent this has been accomplished with the exception of securing uniformity, and that is what we are trying to attain with this method.

Heat-treatment of locomotive forgings is a very different practice in comparison with heat-treatment on automobiles or trucks or any light forgings in other industries. We must all admit that the automobile builders have been successful. It has been proved that we can get the desired strength and also the endurance test on some forgings, and

several shops have been very successful on all forgings they have heat treated, but failure has been the result in the majority of shops. I believe it has come about through the fact that all the experiments were on alloy steel only. The greatest trouble is to attain uniformity in heavy forgings. Aside from all the discouraging features of heat-treatment that are found in the average railroad shop, I believe it is a method we should all endeavor to learn more about.

There are many obstacles which are detrimental to successful heat-treatment of locomotive forgings in railroad shops. There is the cumbersome equipment and space which is essential to success. There are very few shops that could readily be prepared to treat even the lightest of forgings. Then there is the output to be considered and the extra help required. But considering all the obstacles and expensive equipment, I believe it would prove a good investment when the method was thoroughly understood.

DISCUSSION

There was considerable difference of opinion regarding the advantages secured by heat treatment. H. E. Gamble (Penn.) stated that in addition to improving the quality of the steel, heat treatment brought out defects. G. Fraser (A. T. & S. F.) stated that he considered annealing preferable to heat treatment. While heat treated parts showed high tensile strength, they seemed to break down under the vibration to which they are subjected in actual service. W. C. Scofield (I. C.) attributed much of the trouble experienced in using heat-treated parts to the unequal rate of cooling in light and heavy sections. Large forgings are heated above the critical temperature, to treat the material in the interior of the section, and are then quenched again at a lower temperature to take care of the outer layer. Mr. Scofield thought that the high temperature might do more harm than good, and suggested that this explained why small parts have given splendid service after heat treatment, while larger parts have often failed. George Hutton (N. Y. C.) stated that the New York Central has heat treated material for three years and he had still to hear of a single failure. A motion was adopted stating that it was the sense of the convention that wherever heat treatment can be done, it is a success.

An Up-to-Date Railroad Blacksmith Shop

By George Fraser
A. T. & S. F.

The location of the blacksmith shop is an essential feature not only as it influences the design and arrangement of the building and the layout of the tools, hammers, forges, etc., but also as affecting the output of the shop. The nature of the work and the conditions surrounding it require the building to be in an isolated location in order to provide light and air on all sides. In repair work much material travels from the erecting and assembling shop to the blacksmith shop and back again, especially in locomotive work. A large proportion of the material passing between the locomotive and blacksmith shop is heavy and bulky. For this reason the blacksmith shop should be so situated in relation to the locomotive department as to provide for movement over the shortest and most direct route. Such material is usually transported on push cars and trucks, so that distances are important in economizing time and increasing output.

From the standpoint of shop production, the blacksmith shop is looked upon as a feeder for other shops of prime importance. Sometimes this is overlooked in preparing the original plans, and the average blacksmith foreman is never consulted with regard to them, so when the shop is completed he is invited into it, and it is up to him from then on to make the best of it.

The blacksmith shops at the principal shop plants of the

large railway systems turn out the forgings entering into the construction of new cars, and the bulk of the car forgings required in keeping up the repairs of both freight and passenger car equipment on the line, as well as the forgings for locomotive repairs. As there is a difference in the nature of the work for the two departments, each should occupy a section common to itself, and the machines, forges and equipment should be arranged accordingly. Naturally, the equipment for each department is situated in that portion of the blacksmith shop building nearest to the principal shop which it serves. A ground plan in the shape of the letter L is a convenient arrangement for the blacksmith shop, accessible to both the locomotive and car departments. The many conditions affecting the demands upon the blacksmith shop and the differences in the dimensions of the shops on the various railway systems render it impractical to attempt to give a definite proportion based upon any given unit.

The introduction of cast steel in many details for which forgings were formerly used almost entirely has affected the necessary size of the blacksmith shop so far as the locomotive department is concerned. The increased scope of forging machines assisted by the extended use of formers and dies for rapidly duplicating standard parts of cars has increased the possible output of car forgings without enlarging the area required by the shop building.

A general practice has been to span the entire floor without providing intermediate supports for the roof trusses, and in a number of cases this distance equals 100 feet. The trusses are usually supported by the side walls, which carry the weight of the roof structure and roof. At Topeka the steel skeleton is entirely independent, and the roof structure is carried by built-up columns, to which the walls are secured to provide stability. The roof trusses span a distance of 100 ft. The elimination of supporting columns and the long span of roofed trusses without intermediate support allow free scope in the distribution of equipment on the floor. The method of handling heavy work in the blacksmith shop by means of swinging jib cranes requires freedom of action for the crane arms, and the absence of obstructions facilitates the arrangement of these cranes. The long span of roof trusses, together with the requirement of a stiff frame construction to withstand the additional load imposed by supporting the upper ends of the crane column calls for heavy parts and careful design of the roof structure. The horizontal loads imposed by the swinging shop cranes requires stiff lateral bracing. While the distance from the floor to roof trusses at some of the older shops is about 20 ft., the height of the more modern shop has been increased to 30 ft.

Almost without exception, the floor of the blacksmith shop is of earth of some kind. This is frequently covered with a coating of cinders well tamped, and by all means should be six inches higher than the level of the outside surroundings.

The ventilation necessary in a blacksmith shop and the amount of natural light needed require a high free space not only to allow the smoke and gas to rise away from the floors and forges, but to permit the diffusion of light from long windows. It is a very noticeable fact that the cleanest, brightest, most airy blacksmith shops are those with high walls. The roof of the blacksmith shop is usually surmounted by a wide monitor extending nearly the entire length of the roof. This is provided for the sake of ventilation rather than to distribute light. The windows in the walls are depended upon principally for natural light, and it is generally considered that the window area should equal at least 60 per cent of the wall area. In order to offer the least obstruction to the free circulation of air throughout the shop in warm weather and in warm climates the windows should be hung on pivots to provide a greater opening than raising and lowering of sashes.

In addition, the shops should be provided with rolling

doors and the lay of the shop should be east and west, with an open space clear from other buildings on the south side so that all alike will share the south breeze in hot weather. An arrangement frequently followed in the construction of the monitor is to alternate the windows along the sides with space having wooden slats built in on an angle, thus permitting the free circulation of air, while excluding rain and snow.

The removal of smoke and gases from the forges is provided for by different methods. Experience in some shops where great care was used in their design to provide for efficient ventilation is said to have proved that smoke hoods in high shops are unnecessary and that the interior of the building is clear and free from smoke and gas at all times.

Hand forges are usually arranged in a row along the wall, conveniently placed according to the class of work which they serve. The distance between centers of forges varies from 16 to 20 ft. and 5 ft. from the wall. Forges are arranged at a uniform height of about 24 in. and should be of uniform shape and size.

Careful provisions for tool racks is a necessary detail not to be overlooked, for the care and maintenance of tools and equipment is the duty of the energetic foreman. Tool racks are generally arranged along the wall of the shop and in the center of the shop. For hammer, tools, etc., a revolving cone shape tool rack may be provided.

Oil is the most common fuel used in blacksmith shop furnaces. In latter years it has rapidly displaced coal and coke, not only proving more satisfactory and economical as fuel, but also improving the appearance of the shop by removing the necessity of the unsightly coal and coke boxes about the shop. It has been demonstrated by practice that with oil as fuel it is possible to obtain a larger output, a better grade of work by the greater intensity of heat as well as more even heat, the elimination of the necessity of attending the fires, the shortening of the time required to bring the furnace to the desired working temperature and improvements in the conditions under which furnace men work. It is a noticeable fact that in a majority of the new shops particular attention has been paid to the furnace equipment, the design of the furnaces for the various machines and their location in relation to the machine and the movement of the material.

The location of large scrap furnaces should be on the outside of the shop with the working side of the furnace flush with the inside of the main wall. To avoid any possible shortage of steam, boilers should be installed over all large scrap and forging furnaces. By this plan no fuel expense is chargeable to producing steam as the flame and gas from the furnace does the work.

In arranging the fire and furnaces, they should be so placed that the men are not too near a furnace or fire when working on the metal. Efficiency engineers will figure on the number of steps that can be saved in handling from the fire or furnace to the hammer, or anvil, overlooking entirely the comfort of the men whose vitality is sapped out by having the fires too close to the anvil or hammer. The arrangement of furnaces, anvils, hammers and machines should be left to the judgment of a practical man, one who is acquainted with shop practice and in charge of smith shops.

No part of the general railroad repair plant has undergone a greater change during the past 10 or 15 years than the blacksmith shop. A few years ago the majority of work passing through that shop was done on open fires, and a large quantity of the new material was purchased from manufacturing concerns; today, due to the introduction of forging machines, the majority of work in the modern shop is, or should be, machine work.

Modern machines without proper die equipment are of little value. The main blacksmith shop should be provided

with its own tool room, where the die work could be carried along independent of the locomotive department, thus avoiding delays. Little attention is given by other departments to assisting foremen blacksmiths along these lines. The following equipment is sufficient for the average shop: one each, planer, shaper, lathe, drill press and face plate. This equipment is installed in the blacksmith shop tool room at Topeka and greatly facilitates the work of getting out dies, etc.

In connection with furnace equipment and open fires, particular attention should be paid to the layout of blast piping. Efficient blast is a very important consideration to the blacksmith shop, as it practically governs the heating capacity not only of furnaces but of the open fires. The blast line should be overhead, and the safety valves should be provided in the up and down line leading to the forges to take care of any gas that may possibly enter the line. The main blast line should be reduced in area in proportion to the distance covered so as to maintain a good pressure at the end of the line. When compressed air is used in addition to the blast to atomize fuel oil an eight-ounce blast is sufficient. When fan blast alone is used, nothing short of ten ounces will give satisfactory results. The exhaust pipes on steam hammers should pass downward through an independent pipe suitable to carry the exhaust beyond the shop into a catch basin.

The modern shop may have all the facilities it is possible to provide and still not get results. The foreman in charge must have the good will and hearty co-operation of each and every man under him to reach the maximum of efficiency.

DISCUSSION

The ideas presented in Mr. Fraser's paper were endorsed by the members who agreed that the arrangement outlined was practically ideal. W. J. Mayer (M. C.) questioned the advisability of restricting the exhaust from the steam hammers, and asked whether any plants used the exhaust for heating. Several plans for using the steam were described. In some cases a butterfly valve is used in the exhaust steam line to limit the pressure. At the West Albany shop of the New York Central the exhaust from the hammers is piped to the heating system and no heat is required in any part of the plant other than that furnished by the exhaust steam. A similar arrangement is used on the St. Louis-San Francisco at Springfield, Mo. The advantage of piping the exhaust down to prevent condensation, injuring the packing and dripping on the dies was brought out by several who spoke.

Reclaiming Scrap in the Railroad Shop

By Walter Constance

St. L.—S. F.

Although this subject includes scrap reclaiming by the use of both oxy-acetylene and electric cutting and welding process, electric welding is not in use at our reclamation plant, and I will have to leave the discussion of electric welding to others.

The oxy-acetylene torch is used in stripping frogs, switches, etc. Good filler blocks, reinforcement and similar parts are saved to be used again. The shop furnishes over 50 per cent of all switch material used on the system. Switch frogs, switch stands, switch rods and plates are reclaimed or repaired. Brace or slide plates are made from old Weber joints and scrap boiler steel, also transit clips for switch points from the scrap steel. We have made quite a number of oil tanks from tank cars which have been burned. These are cut up by the torch and the best of the steel is sent to the boiler shops for use. The rest is cut up under shears to make switch material and repair parts for steel frame cars. Old cisterns for locomotive tenders are cut up and

used to make loading platform running boards, and coal car corner bands. Good parts of scrap steel cars are used for the same purpose. Some of our brake beam stripping is done by the oxy-acetylene torch.

We formerly welded quite a number of bolsters and baggage wagons and warehouse trucks. Oxy-acetylene welding comes in handy on these things, especially for repairing steel warehouse trucks, the frames of which are broken, as it does not pay to repair them in the blacksmith shop when they have to be stripped, but by oxy-acetylene welding they can be made serviceable again at small cost.

We formerly welded quite a number of bolsters and truck frames as well as broken couplers at this point, but of course we have discontinued doing so now. However, we are changing a large number of good couplers with 5 in. by 5 in. shank, 6½ in. butt, to 5 in. by 7 in. shank, and 9½ in. butt. This is done by welding tapered slabs of steel on the shanks and blocks upon the butts. These then conform to M. C. B. dimensions.

We also reclaim a number of derailing frogs, which are for smaller rails than our standard 90-lb., by splitting them and inserting a piece in the side and welding up with oxy-acetylene so as to bring them to the proper height.

There are no rolls at our plant, but all second-hand bolts are used by cutting off and rethreading, and nuts by retapping. Also all flat iron and round bars are saved for use. Bottom rods are made with solid jaws from old 1½ in. A. C. rods, dump rods, and so on. Truss rods 1¼ in. in diameter are made into brake slabs. The short pieces left over are made into brake beam truss rods, bolts and coupler rivets. Other sizes of rounds are used for handholds, bolts, etc. Rusty ¾ in. and 7/8 in. steel is rolled into brake shoe keys on an abandoned spring roll. Rusty and pitted rounds 1½ in. 1¼ in. and 1⅜ in. are made into grade stakes for the engineering department. All lined iron is rattled and made into frog bolts, and switch chain links. We make standard 1 3/32 in. brake pins by upsetting 1 in. iron on the forging machine.

All brake beam repairing on the system is done at this plant. We use an air bulldozer for straightening. All beams are stripped by laborers and are reassembled by blacksmiths and helpers.

All round iron and bolts are straightened under air hammers at the scrap docks. The bolts are sheared to length and sent to the threader and the iron is sheared for heading in the blacksmith shop. All serviceable track spikes are also straightened at the yard shop.

Coil springs that are standard are reset. Scrap springs are uncoiled on a special machine and made into lining bars, jack bars, rock drills and drift pins.

All track tools on the system are sent here for repairs. Worn claw bars are made into engine pinch bars and lining bars. Picks are welded, if they have one end long enough to sharpen; where both ends are to be welded it does not pay to repair them. Short picks are heated and cut off to obtain steel for welding out others. We also make new claw bars, lining bars, and tamping bars from scrap tire steel. All blacksmith's tools are made from tire steel, and we also use tire steel for bolt dies and hammer tools.

Crooked angle bars for small sized rails are straightened in tools under the steam hammer; this tool spreads the bars slightly and makes them serviceable for siding and commercial tracks.

All coupler yokes are stripped at this plant under a power shear. Yokes are repaired when possible and scrap yokes are used to obtain iron from the forging furnace.

Brake levers that are not standard are repunched, cold plugged and returned to service. All car material, such as brake rods, brake hangers, brake staffs and fulcrums which are repairable are sorted at the scrap docks and repaired in the blacksmith shop.

A very close check is kept on the costs, and if a good margin of profit is not shown we do not attempt to repair and reclaim. The welding and cutting apparatus is here to stay, because we make a specialty of repairing or reclaiming, whereas that is only a side line in ordinary shops, and naturally not so successful.

DISCUSSION

C. E. Stone (D. L. & W.) told of the good results secured by rerolling scrap bars. G. Fraser (A. T. & S. F.) brought out the advantages of reclaiming as much material as possible at the shop where it originates. He also called attention to the necessity for careful consideration of the work done in order to avoid reclaiming where it is more expensive than the purchase of new material.

Powdered Coal for Furnace

Heating in Smith Shop

By H. E. Gamble

In handling producer gas and oil furnaces for forging heavy locomotive parts, drop forging, heat treating and bolt making, the question arises whether a change to powdered coal would be warranted on account of the low cost in operating. In connection with experiments on mixing crude oil with powdered coal, this might help to use up heavy grades of fuel oil coming into the markets for heating purposes. Coal in a finely divided or powdered state, represents the most advanced method for producing perfect combustion, making it possible to more nearly obtain the full heat value of the fuel than by any other known means. The generally recognized waste, unstaple or otherwise low-value coal mine products are suitable for converting into the powdered form. To give the best results as regards complete combustion and the least trouble as regards ash and slag, it is very necessary to have powdered fuel dry and keep approximately 48 hours' supply on hand to prevent the possibility of the coal absorbing too much moisture. The statement has been made that it is not necessary to build new furnaces, as by a slight change present equipment can be made to handle powdered coal. Coal rich in volatile matter is preferred, slack or screenings in preference to run of mine. To successfully burn powdered coal, it should be uniformly fine. The maintenance of a correct ratio of air to coal is absolutely necessary, as on this depends the ability to hold an unwavering and uniform temperature in the furnace, which ranges up to 2,200 deg. F.

We have unquestionably passed through one of the greatest fuel conservation periods known, and the members of this association should do all in their power to secure the best equipment and use their good judgment in conserving all fuel possible in running the blacksmith shops.

Other Business

The report of the secretary-treasurer showed a total membership of 375 and a balance of \$741 in the treasury. A committee was appointed to confer with the officers of the American Railroad Association regarding amalgamation with Section III, Mechanical.

The following officers were elected: President, J. Caruthers (D. M. & N.); first vice-president, W. J. Mayer (M. C.); second vice-president, Joseph Grine (N. Y. C.); secretary-treasurer, A. L. Woodworth (B. & O.). In the balloting for the location of the next convention, Birmingham, Ala., received the largest number of votes.

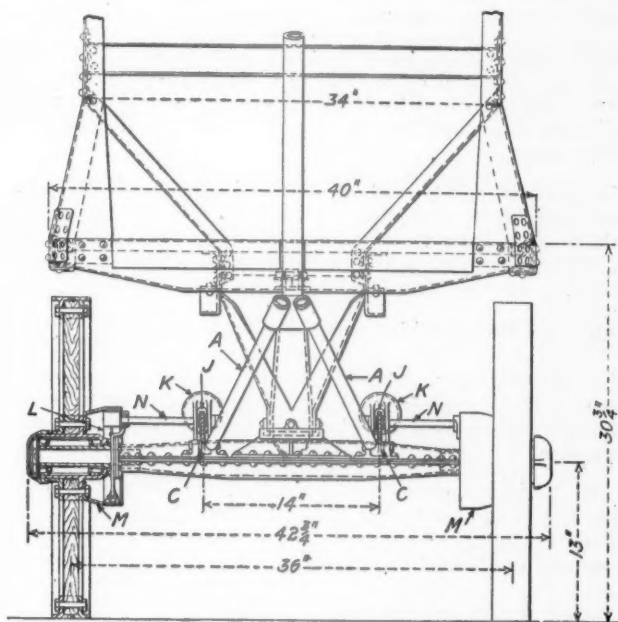
The American Institute of Mining and Metallurgical Engineers are planning to make their meeting at the Congress Hotel, Chicago, September 22 to 26, of especial interest to the local industry.

Baggage Trucks With

Automatic Brakes

THERE ARE a number of four-wheeled hand-operated baggage trucks in use at various points on the Pennsylvania which stop automatically wherever the user happens to let go of them. The advantages of such a truck are self-evident. It is not necessary to chain the wheels and the truck will not move when heavy pieces of baggage or express are placed or shifted on it. Also the danger of having a truck, left unchained, run into a moving train is eliminated.

The two front wheels of the truck are equipped with inside band-brakes. Heavy coil springs connected by chains to the handle of the truck near the axle, hold the handle normally in a vertical position and keep pressure on the



Front Elevation of Baggage Truck

brakes. When the operator wishes to move the truck he pulls the handle down to a convenient position. This compresses the springs and at the same time releases the brakes leaving the truck free to move. When the operator lets go the handle it returns to the vertical position and again applies the brakes.

The value of these trucks is evidenced in stations equipped with a few such trucks and a large number of others not equipped with brakes. There are a few trucks idle most of the time, but those equipped with brakes are never among the idle ones.

The New York State Federation of Labor has adopted a resolution in favor of the Plumb railroad plan.

Bethlehem Iron Ore Dock in Chile Completed.—The Iron ore dock of the Bethlehem-Chile Iron Mines, at Cruze Grande, Chile, construction of which was held up by the war, has just been completed. The dock has capacity for 30,000 tons of ore and is provided with 17 spouts, by which all 17 hatches of the standard 20,000-ton ore boats of the company may be fed simultaneously. The loading time is expected to average three or four hours per vessel, the discharge of water ballast requiring more time than actual loading. The dock is similar to the ore docks in Lake Superior. It is nearly 500 feet long and is loaded by discharging the ore from hopper cars at the top of the dock. The height of the dock from low tide to top of rail is 120 feet.—*Iron Trade Review.*

General News Department

The Canadian Northern freight office at Brandon, Manitoba, was robbed on August 20 of about \$2,000.

The return of the railroads to private ownership was advocated by the Commercial Law League of America at its meeting in Cincinnati on August 19.

\$100,000 in Liberty Bonds and \$3,500 in cash were stolen from a vault in the office of the paymaster of the Boston & Albany at the South Station, Boston, sometime between Saturday night and Monday morning of this week.

In the New York-Toronto air race, arranged by the American Flying Club and Aero Club of Canada, for \$10,000 in cash prizes and trophies, 19 of the 47 contestants, 12 American and 7 Canadians, had completed the round trip by last Wednesday night.

The American Association of Engineers, according to a recent statement, now has 35 railroad sections with memberships numbering from 20 to 250. The largest section is that of the Pennsylvania Railroad, while the Southern Railway has a section with 200 members.

A fire at the Jarecki Chemical Company of St. Bernard, near Cincinnati, Ohio, destroyed 20 cars containing corn, lumber and fertilizer. Charles Busch, engineman for the Baltimore & Ohio, and Jack White, conductor, ran a switch engine into the flames and saved 20 loaded freight cars from destruction.

A. W. Smithers, chairman of the Board of Directors of the Grand Trunk and a member of the British Parliament, arrived in Montreal, Que., recently for the purpose of making an inspection of the Grand Trunk System and also to confer with officers of the Canadian government regarding the status of the Grand Trunk in relation to the complex Canadian railway situation.

Louisville & Nashville passenger train No. 7 was held up between Columbia, Tenn., and Pulaski early on the morning of August 21 and robbed of valuable mail pouches. The bandits forced trainmen to cut the engine loose and started it towards Pulaski unmanned. It was found some time after near Wales, Tenn., a few miles north of Pulaski, where it had run out of steam.

The Traveling Engineers' Association has announced that the question of the amalgamation of this association with the Section III, Mechanical, of the American Railroad Association has been considered by a committee. Its findings will be presented at the convention which opens on September 16, at which time it is expected that the association will take definite action on the matter.

The first train over the Valley Railway reached St. John, New Brunswick, from Fredericton, on August 21. The St. John & Quebec Railway, the official name of the Valley road, has completed 159 miles of road. It joins the Canadian Pacific at Westfield and by its completion affords the shortest existing route between St. John and Quebec. The Canadian National is soon to take over and operate the Valley Railway.

The Flathead County (Mont.) Board of Equalization has denied protests by two railroad companies against assessments amounting to more than \$2,000,000. The Northern Pacific asked a reduction of \$1,595,405 in the assessment against its timberlands in the county, the total acreage of which is 129,675. Its value as returned by the Northern Pacific is \$567,445 and that placed by the assessor, \$2,162,850. An application made by the Great Northern to exempt from assessment more than \$400,000 worth of tools and materials on the ground that it was government property was also denied.

Appeals to the state Board of Equalization have been filed in both cases.

A threat to tie up the New York, New Haven & Hartford, helped to bring about a settlement of a strike which lasted five days on the New York, Westchester & Boston. The motormen and conductors on the New York, Westchester & Boston struck for and won the same wages as are paid on the steam railroads. With the increase of 25 per cent granted the men on August 17 this meant an advance of about 34 per cent. The men accepted a nine-hour day instead of the eight-hour day which they demanded. The New Haven owns 98 per cent of the stock of the New York, Westchester & Boston.

The Canadian Pacific social clubs held their first annual convention at Winnipeg, Man., on August 20 and 21. A constitution was drawn up centralizing all the Canadian Pacific social clubs under one governing body with headquarters in Winnipeg. J. Bending, president of the Winnipeg Club, was elected president of this governing body, and R. W. Beatty was elected general secretary. The presidents of all the existing clubs will form the central committee.

A comparative report of the amounts of materials in stock, exclusive of fuel, rail and tires in the Northwestern region shows that the value of this material has decreased from \$55,778,875 on January 1, 1919, to \$48,160,284 on July 1, of the same year. At the same time the number of months stock on hand, based on the June consumption, has decreased from 6.7 on January 1, to 5.8 on July 1. The value of materials transferred totals \$1,115,828 for the period from December 1, 1918, to August 1, 1919.

To present graphically Safety First lessons to railroad employees has been the aim of George Bradshaw, supervisor of safety of roads under the jurisdiction of Federal Manager Frank H. Alfred. The latest bulletin issued by the safety organization under Mr. Bradshaw's direction carries out this idea in presenting to the employees one of their fellow workers who, through neglect, lost the use of one eye. His photograph, a reproduction of the piece of metal which caused the accident and the moral involved are presented graphically to the employees with the consent of the injured employee.

The Frank Thomson scholarships of the Pennsylvania Railroad have been awarded to Archibald M. Thomson, of Haverford, Pa., and Frank J. Travers, of Fort Wayne, Ind. Aside from the two who were awarded the scholarships this year, six other young men will continue their college courses this fall. The successful candidates receive certificates entitling them to payment by a trust company of a sum not in excess of \$600 a year for each year during which they attend college. According to the terms of the trust, one scholarship is awarded to the successful candidate from the eastern lines and one from the western lines.

The railroad question is attracting more attention now than at any former period, according to the Chamber of Commerce of the United States, which daily receives hundreds of requests from all parts of the country for detailed information about it. The demand for data has been so heavy that republication of all the chamber's pamphlets and statements is necessary. An edition of 10,000 copies of the statement of George A. Post before the House committee on interstate and foreign commerce, in which the National Chamber plan was set forth, was exhausted within a week. Many inquiries are coming from farmers.

The United Brotherhood of Maintenance of Way Employees and Railway Shop Laborers will hold its annual convention in Arcadia Hall, Detroit, Mich., on September 8.

to 20 inclusive. It is expected that 1,800 delegates will be present from the 2,500 lodges of this organization. One hundred and thirty-five general chairmen of this organization, representing the employees on that number of railroads, were in session in Detroit the week of August 19, forming a general chairmen's association and creating committees to arrange for the presentation of the various subjects which will come up for consideration at the annual meeting.

The Black Tom explosion on July 30, 1916, was caused by a German agent known as Lathar Witcke, alias Pablo Wabirski, now a federal prisoner at San Antonio, Tex., according to the statement of Dr. P. B. Altendorf, late of the U. S. Military Intelligence Department. If the cause of the explosion was incendiarism the Lehigh Valley would be cleared of liability for damages. In two suits that railroad has been held responsible for the explosion by juries that gave judgments aggregating nearly \$1,500,000 to the Bethlehem Steel Company and Howell & Co. of New York. A suit of Jersey City claimants against the Lehigh Valley is on the Supreme Court calendar for trial in the September term.

George W. Hunter, receiver of the Louisiana & Northwest, has filed a petition before United States Judge G. W. Jack of Shreveport, La., asking authority to abandon the southern end of the Louisiana & Northwest, i. e., the division running between Natchitoches, La., and Gibsland. The petition stated that funds are not available to keep that portion of the road in safe repair and that it is impossible to sell the railroad in its entirety. A sale was ordered sometime ago by Judge Jack but no bids were received. The petition has been referred to the Louisiana State Railroad Commission whose report and findings will be advisory only. The hearing before the Commission will be held at Shreveport on November 3.

Upon an inquiry from the Railroad Administration the Bureau of Internal Revenue has recently ruled that where transportation taxes have been collected by carriers on the basis of their legally published rates, and such rates have subsequently been declared excessive and unreasonable and ordered reduced by the Interstate Commerce Commission, reparation payments to the shippers being required, the carriers making the reparation payments may refund the amount of the taxes collected on the charges found excessive; or, in the event the taxes have been turned into the treasury, the carrier in making reparation may refund the tax on the amount found to be excessive and take credit for the same against amounts included in any subsequent monthly returns.

In a rear collision on the Pennsylvania at Elwood, N. J., on Sunday morning, August 24, one man was killed and more than 20 persons were injured. Ralph Townsend, engineer of the second section of the Washington excursion train, which telescoped the rear end of the first section, was held responsible for the accident by a committee of five railroad men appointed by R. L. O'Donnel, general manager of the Pennsylvania. The committee reported that the engineer's failure to see a yellow caution signal 4,400 ft. from the scene of the wreck made it impossible for him to bring his train to a stop in time. Director General Hines has announced that a "special inquiry will be made into every phase of the occurrence to ascertain the cause and locate and deal with the responsibility."

West Texas is facing a railroad blockade due to the exceptionally heavy oil traffic, the result of developments in the Wichita Falls district, according to Edward P. Byars, traffic manager of the Fort Worth (Tex.) Freight Bureau and Commerce Counsel of the Texas Petroleum Refiners Association. Appeals have been made by the Texas Petroleum Refiners Association, the West Texas Chamber of Commerce and the Texas Wholesale Fruit and Produce Dealers to the Railroad Commission of Texas and also to Director General Hines urging that action be taken at once to end the congestion. It is claimed that oil companies have no cars in which to transport their oil and that tanks, oil well supplies and equipment are being packed in the Fort Worth yard. In addition to the oil traffic, a large grain crop is being marketed and repeated calls are being made for cars in which to ship this grain. A telegram to the director general advocated the placing

under the jurisdiction of Regional Director B. F. Bush of a forceful man to take complete charge of the situation with absolute authority to direct movement of traffic over any line he sees fit. The telegram intimates that there has been a competitive spirit manifested between the Southwestern Region and Central Western Region lines which has added to the congestion. The director of the Division of Public Service has advised the Texas shippers that the situation is being handled vigorously and that reports will be made in the near future.

The Canadian Railway Board of Adjustment No. 1 has issued six awards relating to wages and working conditions. By one of these rulings various clerks, express, roundhouse and station employees and freight handlers on the Canadian National Railways, who have been receiving \$60 and \$62.50 a month, will now receive the minimum of \$87.50. The new scale is made retroactive to September 1, 1918. Another award gives an increase of \$10 a month to Canadian Pacific Morse operators at what is termed "outside points" and \$12 a month to the three percentage groups in the percentage offices. By the decision of the board in the controversy between the Canadian Pacific and its dining car service employees the allowance for excess mileage, terminal delay, etc., was abolished and monthly rates were substituted.

To Accompany Prince of Wales

H. R. Charlton, general advertising agent of the Grand Trunk, has been designated to accompany the Prince of Wales when he uses the lines of the Grand Trunk System on his visits to the principal Ontario cities. Mr. Charlton has been the representative of the company on the various Canadian tours of important personages during the past twenty years.

Railway Tool Foremen's Convention

The ninth convention of the American Railway Tool Foremen's Association opened at the Hotel Sherman, Chicago, on August 27. Following the invocation an address of welcome was delivered by a representative of the states attorney. W. E. Dunham, assistant to the general superintendent motive power and car department of the Chicago & North Western, spoke on the relation of the tool foremen's work to the general efficiency of the shop and C. A. Shaffer, president of the association, delivered an address. An abstract of the proceedings will appear in next week's issue.

St. Paul Adds 110 Miles to Electrified Line

President R. M. Calkins of the Chicago, Milwaukee & St. Paul says that in a few days electric current will be turned on over another 110 miles of main line from Othello to Cle Elum, Washington. By January 1, the road will be completely electrified from Harlowton, Mont., to Seattle, 885 miles, or within 200 miles of half the entire length of the St. Paul-Seattle line.

The last stretch from Cle Elum to Seattle, 130 miles, will cost about \$9,000,000, or 25 per cent to 40 per cent more, relatively, than preceding units, on account of higher prices of labor and material.

Electrification has doubled train tonnage, says Mr. Calkins.

Report on Railroad Annual Pass Holders

Director General Hines has recently sent to the Senate in response to a resolution a statement giving the names of holders of annual all-line railroad passes and Pullman passes. A preliminary reply was sent to the Senate on July 21, as noted in these columns at the time. The later report states that 2,418 all-line Pullman passes have been issued by the Railroad Administration as of July 1, 1919, of which 515 have been cancelled, leaving 1,903 outstanding. As corrected, 4,200 all-line railroad passes have been issued up to July 1, of which 119 have been cancelled, leaving 4,081 outstanding on July 1, 1919. The lists of names include, although out of their alphabetical order, the name of W. G. McAdoo as special counsel for the Railroad Administration for the State of New York, and also of Mrs. McAdoo and a dependent son

and daughter. April 4, 1919, is given as the date of mailing. At about that time Mr. McAdoo returned east after a vacation in California and his appointment as special counsel made unnecessary the observance of the tariff formalities regarding the number of fares required for a private car.

National Industrial Traffic League Meeting

The docket for the summer meeting of the National Industrial Traffic League, which will be held at Pittsburgh, Pa., September 4 and 5 is as follows:

Report of the Executive Committee—Proposed change in Article 6 of the constitution, increasing minimum dues from \$15 to \$25 per annum; investigation relative to car situation; recognition of established rate relationships in advances or reductions in rates; recommendations to Congress with respect to the railroad situation.

Report of Special Committee—Through Export Bills of Lading.

Report of Special Committee on Railway Leases and Sidetrack Agreements—Liability Clause in Railroad Leases and Sidetrack Agreements.

Report of Committee on Car Demurrage and Storage—Status of Recodification of the Demurrage Code.

Report of the Committee on Transportation Instrumentalities.

Report of Bill of Lading Committee—Uniform Bill of Lading; Two Year and One Day Limitation in paragraph 3 of Uniform Bill of Lading—Intervention in *Jos. E. Decker & Sons Case*.

Report of Express Committee.

Report of Committee on Rate Construction and Tariffs—Furnishing classifications free of charge to shippers and commercial organizations; consolidation of tariffs of individual lines into agency issues.

Report of Haggage Committee—Uniform Baggage Tariff.

Report of Freight Claims Committee.

Report of Special Claim Committees.

Report of Organization Committee.

Report of Membership Committee.

Report of Weighing Committee.

Report of Classification Committee.

Two business sessions will be held on September 4, one at 10 a. m. and the other at 2 p. m. and a third business session will be held at 10:00 a. m., September 5.

Federal Trade Commission

Sees Scandal in Bumping Posts

Asserting that the ownership of refrigerator cars by the packers is a principal factor in their control of the meat industry, the Federal Trade Commission has made public a special report to the President on private car lines, recommending that the government acquire all cars used for the transportation of meat animals and all refrigerator cars and all necessary equipment for their proper operation and that such ownership and operation be declared a government monopoly or that the cars and equipment be owned and operated by the railroads under government license regulation.

"The volume of traffic of the five packers," the report says, "has enabled them to secure from the railroads advantages over competing shippers. Formerly in the shape of direct rebates, these advantages are now usually in expedited service to the big packer cars; in favorable mixing rules which include all their diversified products and even many articles not related to the packing industry; by allowances paid to some of the big packers by carriers for the performance of a part of the transportation service; by favorable arrangements and lease of stockyards by the railroads to some of the big packers; and by the sale to the railroads of bumping posts manufactured by a subsidiary of one of the big five packers."

How much of the high cost of living is due to excessive prices paid for bumping posts is not stated.

A. R. E. A. Co-Operation with A. R. A. Questioned

The advisability of the American Railway Engineering Association continuing its present working arrangement with the American Railroad Association has been questioned by George D. Hill, assistant valuation engineer of the Seaboard Air Line, and a member of the A. R. E. A. Mr. Hill has sent a letter to the members of the engineering association which calls attention to the present working arrangement between the two organizations whereby the committees of the American Railway Engineering Association have been appointed as similar committees of the newly organized American Railroad Association and have formed a part of the engineering section of the American Railroad Association. He calls attention to the vote

of the members taken last July in which 577 voted against the consolidation of the engineering association with the American Railroad Association, while 83 voted for it, some of whom qualified their votes by adding "only during the period of the war." Mr. Hill states that the working arrangement "has the ratification of *only* the Board of Directors of the American Railway Engineering Association and *perhaps* a majority of the small representation of members present at the last annual meeting." To ascertain whether he represents the feeling of the majority of the members of the engineering association that this action should be recalled before it is too late and "that a complete divorce of the American Railway Engineering Association from the American Railroad Association be accomplished by a working arrangement or otherwise and return the American Railway Engineering Association to its status quo before the war" a ballot is attached on which the members are urged to express their position.

Workmen Strike at Car Company's Plant

A strike of employees of the Standard Steel Car Company's plant at Hammond, Ind., which has been in progress for almost a month, recently assumed a serious aspect with the outbreak of fighting between the strikers, police and deputies. The belligerent attitude of the strikers during the past week led to the issuance of orders calling for protection of the company's plant by 11 companies of the Indiana state militia, charged by Governor Goodridge of Indiana with the "most rigorous exercise of force" if necessary. Adjutant-General Harry B. Smith, in command of the troops, also carries a proclamation from the governor declaring martial law in Hammond, which will be put into effect if the fighting is resumed. Approximately 1,700 employees are on strike for higher wages and practically all attempts at arbitration have failed. The troops were called by Mayor Dan Brown of Hammond, who feared serious trouble if the company attempted to end the strike by the importation of strikebreakers. With the guards furnished by the state, however, approximately 400 men were brought to the company's plant after the employees had refused a compromise offer which would give them an increase of 7 per cent in pay. The importation of strikebreakers complicated the situation by the necessity for housing them near the plant. Many of the cottages in which the workmen live are owned by the company and they feared that they will be forced from these dwellings to make room for new workers. Officers of the company admit that some provision must be made for quartering the men and that the strikers will be compelled to move if they refuse to return to work.

Latest reports indicate that there has been a break in the ranks of the strikers, approximately 200 having returned to work, and others indicating their intention to do so as soon as they are assured protection.

Safety History

J. C. Silling, conductor on the Joplin Division of the Missouri Pacific, presented some interesting history of the safety movement at a recent Safety Committee meeting. Mr. Silling said in part:

"In many quarters it is believed that the Safety First movement is of comparatively recent origin. Many manufacturers, however, have been engaged in safety work for over 20 years. The Crane Company of Chicago was one of the pioneers in safety work, particularly as regards eye protection. In 1897 this company commenced to furnish goggles to its men, and in 1898 began giving glasses to the men free of charge. As a result of this policy, the number of eye injuries has been greatly reduced.

"It was not until about 1913 that it was taken up generally. Then automobile associations, protective associations and street railway companies financed a program of instruction on Safety First in the schools. In some cities they distributed propaganda and literature stating the causes, results and precautions for preventing further accidents. The plea for prudence and caution originally came from the United States Public Health Service, Bureau of Mines, Department of Agriculture, Interstate Commerce Commission, Navy Department and War Department.

"There has been considerable discussion as to the origin of the words 'Safety First,' and I have seen an announcement that one of the railroads used the words 'SAFETY SHOULD BE THE FIRST CONSIDERATION' in the seventeenth century, but I think it is generally conceded that the Illinois Steel Company at its South Chicago plant was the first to consciously use the 'Safety First' although, as often happens, it was not supposed then that the words would become popular and express our conservation for life and limb in the industries. Many people deplore the use of the words—they say it is impossible to have Safety First—and some of the companies

are using a substitute slogan, 'BE CAREFUL' But whatever the slogan may be, I believe it should be affirmative and constructive, for very few of us give a thought to the price we pay for our modern transportation.

"In the beginning of the 'Safety First' movement, the cause had the impetus that attaches to a fad, and it was taken up with remarkable rapidity throughout the country. Since then the concern of those who realized the intrinsic value of the agitation has been to denude it of the faddish features in order to prevent a decline of interest on the part of those participating in it, and to insure its permanence as a fundamental principle in the management of men. Proof that such a difficult thing has been accomplished is at hand today in the mere fact that the 'Safety First' movement is as alive now as it ever was. It is universally recognized not only as a humanitarian but as an economic measure and its principles cannot now be ignored by anyone who is engaged in the administration of important business."

Engineering Council Suggests Engineer on I. C. C.

Engineering Council has opened a campaign for the appointment of an engineer familiar with transportation problems to the vacancy now existing on the Interstate Commerce Commission. In order to bring this matter to the attention of President Wilson, who will make the appointment, a letter has been addressed to him, signed by J. Parke Channing, chairman of engineering council, which states in part:

"Engineering Council, being aware of a vacancy on the Interstate Commerce Commission, begs leave to request the Chief Executive that in filling this vacancy, he give earnest thought to the selection of a man who, to his other qualifications, adds the training and experience of an engineer familiar with transportation problems.

"Engineer members widely chosen would bring to the investigations and deliberations of the Interstate Commerce Commission not only technical knowledge of great value, but also experience in executive duties, a judicial attitude gained through the direction of work under contracts, minds of analytical habit, familiarity with costs of construction and operation, experience in dealing with employees of many vocations, and integrity of thought cultivated by that inescapable obedience to the laws of nature involved in the practice of this profession. The engineer's training fits him for that mode of thinking which is indispensable to impartiality of judgment. One important function of the Commission is valuation of public utilities and another is the determination of relationships and responsibilities of the management of such utilities to the public. No other body of men has given so extensive and so scientific consideration to these matters as have members of the engineering profession.

"Council's purpose is not to further the interests of any individual or group, but solely to serve the nation by strengthening one of its most important regulatory bodies. Upon the wisdom, intelligence and courage of this Commission depends in large measure the commercial welfare of the country. It is believed that the engineering profession can and should contribute to the country's well-being through the channel of membership in the Interstate Commerce Commission."

"Our Country First Conference"

The call to "Our Country First Conference," to be held under the auspices of the Illinois Manufacturers' Association at Chicago on September 8 and 9 inclusive, has been sounded as follows:

"Agitation of the causes of our national unrest, coupled with indiscriminate charges, makes the frank discussion by all patriotic citizens of the problems and conditions underlying the situation an absolute necessity.

"Several distinct groups are endeavoring to create public sentiment by the presentation of exparte views. Congress, to arrive at a just conclusion, needs the facts, as well as the views of all classes of citizenship. A clear and fearless expression of opinion should be formulated and proper committees appointed to present the conclusions reached to Congress and others concerned, in order that fair and honest legislation may be enacted, a square deal given to all and the nation freed of the agitators who are trying to overthrow the very foundations of our government."

Invitations to attend the meeting have been sent to every national and state organization, including financial, manufacturing, distributing and wholesale and retail organizations, 415 agricultural societies and consumers organizations wherever organized. Invitations have also been sent to the American Federation of Labor and the Department of Labor to have representatives present to outline

their views on reconstruction problems. Approximately 1,000 of these invitations have been accepted and the replies indicate that the attendance at the conference will be exceptionally heavy. The suggestion has been made that a resolutions committee representing all interests be formed and that group meetings of the various industries represented be held prior to the conference. As a result of the latter suggestion arrangements have been made for holding these meetings either on the evening prior to the opening of the conference or on Monday night, the first day of the conference.

More Tentative Valuations

The Division of Valuation of the Interstate Commerce Commission has issued tentative valuation reports on the Tampa & Jacksonville, Louisville & Wadley, Albany Passenger Terminal Company, Macon & Birmingham, Mississippi Eastern, Norfolk Southern and the San Pedro, Los Angeles & Salt Lake. No notable changes have been made in the form or substance of these valuations as compared with those previously served except that "other values or elements of value" are reported as follows: "No other values or elements of value to which specific sums can now be ascribed are found to exist." The value of the property is not reported but the statement is made that the order will be supplemented by such further findings and order with respect to the value of the carrier property as may be deemed appropriate.

In the case of the Norfolk Southern the capital stock outstanding was \$16,000,000 and the bonded debt outstanding was \$17,426,142. The investment in road and equipment as reported by the carrier was \$28,333,531. This, the report says, is too large. It is reported that the original cost cannot be ascertained but the investment in equipment is given as \$4,018,619. The cost of reproduction new of common carrier property other than land is given as \$24,067,374, and the cost of reproduction less depreciation as \$19,800,019. The cost of carrier lands is given as \$1,655,427 and of the non-carrier lands as \$105,812, while the present value of the carrier lands owned is given as \$2,418,698 and of the lands used as \$583,272.

The capital stock of the San Pedro, Los Angeles & Salt Lake was \$25,000,000 and its long term debt \$56,274,000. The investment in road and equipment as stated by the carrier was \$76,391,598, but the report says this includes \$25,000,000 to balance the stock issue, and with some readjustments the report states it as \$42,873,561. It is said to be impossible to state the original cost to date. The cost of reproduction new of the property used, not including land, is given as \$43,127,960 and the cost of reproduction less depreciation as \$35,701,567. The present value of the lands owned is given as \$4,043,749 and of the non-carrier land as \$3,624,677.

Pacific Coast Railway Men Strike

Enginemen, trainmen and yardmen employed on the Los Angeles division of the Southern Pacific went on strike August 21, in sympathy with the striking trainmen of the Pacific Electric and the Los Angeles (Cal.) street railways. As a result the entire Los Angeles division of the Southern Pacific as well as the Pacific Electric and the Los Angeles Railways have been completely tied up. Embargoes have been placed on livestock and perishables from, to and through Los Angeles, Fulton and San Bernardino and dead freight is being handled subject to delay. Service to Los Angeles on the Atchison, Topeka & Santa Fe has also been seriously affected by the strike, the westbound movement terminating at Barstow, Cal., although the line from Barstow north to San Francisco is open.

The striking employees of the Pacific Electric and Los Angeles Street Railways demand reinstatement and full pay for all men on strike, for the time they have been out, the discharge of all strike breakers and the discharge of employees who have remained loyal to the company. The strike of the steam railway men is entirely in sympathy with the electric railway workers and no grievances have been presented. The sympathetic strike on the part of the steam railway men has been undertaken without the sanction of the international brotherhood officers and in disregard of in-

structions issued by Warren S. Stone, president of the Brotherhood of Locomotive Engineers. It is estimated that approximately 3,500 men formerly employed on the steam roads in and near Los Angeles are now out and the strike is extending northward and eastward, reports on Tuesday indicating that the switchmen of the Southern Pacific at Indio, Cal., have walked out, cutting off traffic to Texas and Arizona points.

Because of repeated attempts at intimidation and threats of violence, the Los Angeles Street Railway Company obtained an injunction against the amalgamated association of street and electrical railroad employees of America, Division No. 835, restraining them from interfering with the running of cars on that line. The electric railway companies have endeavored to break the strike by the importation of strike breakers and has maintained operation although greatly curtailed. According to officers of the electric line violations of the injunction have been frequent and evidence is being gathered against those who are believed to be directing the strike, among whom are officers of the Brotherhood of Railroad Trainmen and other officers of the steam railway brotherhoods.

Reports filed from San Francisco on August 26, state that yardmen employed by the Southern Pacific at San Francisco and Oakland have gone on strike practically without warning. This strike, which involves men caring for engines in the yards as well as switchmen, went into effect as the day shift went off duty and at a time when it was necessary to handle the evening rush of commuters to suburban points. The men agreed to leave a sufficient number of workers on duty to care for this rush, however, and no serious difficulty was experienced. At Oakland the yardmen left their work without warning shortly before 8 P. M., and it is not known whether or not their strike is connected with the strike in San Francisco.

Indications that the strike is spreading to other branches of railway men were confirmed with the receipt of reports indicating that car repairmen at the Southern Pacific shops at Los Angeles have walked out in sympathy with the striking trainmen and yardmen. Press reports estimate that a total of 1,500 shopmen are out.

Valuation Progress

In a statement issued by Frederick H. Lee, secretary of the President's Conference Committee on the Federal Valuation of the Railroads, under date of August 15, the suggestion is made that no necessity now exists for the carriers to incur the expense of accumulating evidence on the cost of acquisition of lands, parcel by parcel, in view of the attitude of the Interstate Commerce Commission as evidenced in its decision in the Texas Midland case. An effort has been made to secure a definite understanding with the Commission or the Bureau of Valuation, that should the Commission announce in the future that such evidence will be received and such costs reported by it, a reasonable opportunity will be allowed the carrier to assemble such evidence. Difficulty has been encountered in securing a definite agreement in this respect, but the Director of Valuation has suggested that carriers should assume that the Commission would adopt a fair and reasonable course in the matter.

Pending the appeal of the Kansas City Southern Railway Company from the decision of the Commission declining to receive such testimony, it seems reasonable to assume that no change in the present attitude on this question will be made unless or until the Supreme Court of the United States renders a decision on this subject.

In this statement attention is also called to a letter addressed to the regional directors by C. A. Prouty, director of the Division of Valuation on July 25, with reference to valuation order No. 3, a portion of which reads as follows:

"This revised order was served some months ago. The first returns to be made under it are due July 31. As director of valuation, I recently caused a visit to be paid to the officers of the principal railroads with a view to ascertaining what was being done to comply with this order. To my utter surprise, I learned that in most cases the very existence of the order was unknown to the responsible heads of the Administration, often to the auditor himself, and that no steps had been taken to comply with the order. Now it is perfectly evident that the Commission must insist upon a prompt compliance with this order if it is to obey the

behest of Congress. The Commission probably has authority today to enforce compliance, but if it has not, it will undoubtedly be given ample authority in the near future.

"After a good deal of consideration and in the light of the facts developed by my recent investigation, it is my own opinion that every railroad must create an organization for the purpose of dealing with Order 3. That organization may be a part either of the accounting or engineering department, and the size of it will depend entirely upon the extent of the railroad system, but there ought to be on every Class I road at least one individual whose sole duty is to look after this order, who will become imbued with the spirit and the requirements of the order, and who will stand responsible for its enforcement.

"Inasmuch as this must go on after these properties are returned to their owners, the matter is one of even greater importance to the corporation than to us, and I would suggest that you get in touch with the corporation and co-operate so far as may seem desirable."

Some Views on the Plumb Plan

Governor John J. Cornwell of West Virginia has sent the following letter to certain railroad employees who appealed to him to support the Plumb plan:

"Of course I regret that any of my fellow citizens should disagree with, or feel aggrieved with me because of my views upon any public question, but that cannot deter me from having and exercising the same freedom of opinion that you have. When you asked for an eight-hour day I was with you, heart and soul. I was then and am now, in favor of your securing not only a fair, but a liberal wage, but when you ask the farmers and the laborers in other lines of work to go in debt 20 billions of dollars through the medium of the federal government to buy the railroads and give them to you to operate for your benefit and to use as you please, you are making a proposition that is neither sane nor fair.

"To me it is little short of amazing that men possessing the intelligence of the trainmen I meet should be gulled into making such unreasonable and outrageous demands.

"If the people bought the railroads and gave them to you to run for your benefit, telephone and telegraph employees would demand the same thing of those properties. They have as much right to it as you have. Then the coal miners would demand that the mines be purchased and given to them, and they have as much right to make the demand as you have.

"Then the farm laborers, with even better right would say, 'We produce the food you live on—buy the farms and give them to us.' Then we have, not Socialism, but Chaos. They are trying to run things that way in Russia and we know the result.

"I intend to try to present to the people of the state what this plan means. First, as to the shifting of the burden of taxation, or some four million dollars of it, in West Virginia from the railroads on to the farmers and home owners if the Plumb plan was to go through. It would make Cabell, Wayne, McDowell, Mercer and Mingo counties unable to pay the debt they are creating to build public roads. It would stop road building, building of school houses, and all public improvements.

"I have been a laboring man myself—carried a dinner bucket—for a dollar a day. My labor now is not regulated by eight, ten or twelve hours but often sixteen and sometimes eighteen. I am not now and never expect to be a capitalist, but I am an American, not a Bolshevik. I stand for law and order and I am not asking somebody to buy property and give it to me, but want to work and give honest service for every dollar I receive."

In a special message to the general assembly Governor Davis of Virginia transmitted a communication received by him from the state corporation commission setting forth what would be the effect in Virginia should the Plumb plan of railroad operation be enacted into law by Congress.

Operation of the Plumb plan would take from the tax revenues of the state approximately \$224,000 the first year, \$446,000 the second year and \$669,000 the third year, according to the commission. At the end of 10 years it was estimated that it would cost the state in taxes \$2,500,000 per annum, or approximately 25 per cent of the entire revenue of the treasury. It would cost the city of Richmond alone the greater part of \$154,689.73. These figures include, besides revenues from steam railways, revenues from telegraph and telephone companies also, but these latter represent only a small fractional proportion of the total.

Traffic News

Four fast freight trains carrying 10,000 bales of raw silk, valued at \$8,500,000 left Vancouver, B. C., for New York on Tuesday of this week. The goods were part of a \$10,000,000 cargo of silk brought from Hongkong on the Canadian Pacific liner *Empress of Asia*.

Because of the condemnation of the bridge over the Tennessee river at Chattanooga the Southern Railroad has announced a readjustment of passenger train service between Cincinnati and Chattanooga, and between Cincinnati, Atlanta, Macon and Florida, effective Sunday, August 31.

Two of the forty 2,000-ton barges built for the United States Railroad Administration for use on the Lower Mississippi river have been delivered to the Railroad Administration and are now in commission, and the third will be delivered by the end of next week and the fourth about the middle of September. After that date the deliveries will be very frequent.

The last of the harvest trains have arrived in Winnipeg, Man., from eastern Canada over the lines of the Canadian Pacific, the Canadian Northern and the Grand Trunk Pacific. The number of men who have been transported is below the figure asked for, 18,000, but the authorities declare that it will be ample for requirements now that harvesting is well advanced.

Under the new rules of the American Express Company to go into effect December 1, 1919, shippers are required to adopt a new system of packing their merchandise by introducing outside containers of different weights. The United States Railroad Administration has endorsed the new regulations, the purpose of which is to stop the pilfering of goods in the course of transit.

A land-clearing special train will leave Cordele, Ga., on September 1 on a trip to 17 other south Georgia towns. The special was planned by the extension division of the Georgia State College of Agriculture with the co-operation of six tractor companies, three stump-pulling companies and one powder concern. Two days will be allotted to each town for demonstrations on stump pulling, ditch blasting and general work by the tractors.

There were more monthly sixty-ride commutation tickets sold on the Long Island during the month of July than in any one month in the history of the road, according to a statement by Ralph Peters, federal manager. Exactly 44,595 commutation tickets were purchased in July, 1919, being an increase of 8,883 tickets over the same month of 1918. In July, 1917, 30,943 commutation tickets were sold. There are now 13 stations in Long Island with more than 600 commuters each.

A report on traffic conditions throughout the country for the week ended August 18, made to the director general, shows that the strike of railway employees retarded the movement of both freight and passenger business. The effect was especially noticeable in the New England district and the Pocahontas, Southern, Northwestern and Central Western regions, statistics showing that in each of these regions there was a decided falling off in freight movement. However, it was noted that with the ending of the strike conditions were rapidly returning to normal.

I. T. Sparks, traveling freight and passenger agent for the Southern Pacific at El Centro, Cal., states that the cantaloupe and watermelon crops produced in the Imperial Valley this year have required the use of 7,830 freight cars. The gross return for this crop totaled approximately \$9,208,080 and the net return to the growers, \$1,710,072. During the month of June over 1,000 carloads of other products were shipped from the Imperial Valley with a net value to the ranchers of \$1,122,660. The total value of the products shipped out of the

Imperial Valley during the month of June was \$11,336,140 gross and \$2,898,972 net.

According to a report on overseas traffic made to the director general, for the week ended August 20, 1919, 6,108 cars of commercial export freight were received at North Atlantic ports as compared with 1,031 cars for the same week of 1918. This is an increase of 5,077 cars or 492 per cent for the week ended August 20, 1919, as against the same period cent. There was a total of 12,971,087 bushels of grain stored in elevators at North Atlantic ports on August 20, 1919. There were received during the week 6,050,202 bushels, while 5,019,154 bushels were cleared. At South Atlantic and Gulf ports there were 5,148,142 bushels of grain stored in elevators.

Flat rates on logs, bolts and billets are now charged by all railroads, according to J. H. Townshend, secretary-manager of the Southern Traffic Association. The new rate takes the place of the gross rate which has been in effect and will relieve lumber shippers of the burden of making reports and paying money running into hundreds of thousands of dollars which is held in the hands of the carriers indefinitely before being refunded. At the same time the change will not affect the carriers' revenues. A bond will be given by each shipper to assure the roads that the shipping will be over the same road on which the forest product was brought to the milling point. The lumber shippers were formerly forced to pay the gross rates on the shipment of lumber from milling points and later a refund was made on the first rate.

Strikes Cause Slump in Coal Production

The production of bituminous coal slumped again in the week of August 16, largely as a result of the recent strikes on the railroads and in the coal fields, according to the weekly report of the Geological Survey, which says that "the lack of market has ceased to be the principal factor limiting production in most districts, and car shortage, or more broadly speaking, transportation disability, is of greatest importance. Mine operating time reported lost in the week of August 9, because of car shortage, was 22.5 per cent, the highest recorded in any week since March, 1918, while "no market" was responsible for only 8.8 per cent and labor shortage and strikes for only 4.9 per cent. Production of bituminous coal in the calendar year to date is now nearly 92,000,000 tons, or 25 per cent, behind that of last year, for the corresponding period.

Arrangements for Labor Day Travel

Director General Hines has issued a notice urging that in view of the extraordinary heavy travel anticipated over Labor Day, the public, if desiring to travel on the railroads over Labor Day, make their traveling arrangements, including the purchase of railroad and sleeping car tickets, as far in advance as possible so as to avoid adding to the congestion which usually occurs at this period. As far as is possible, he says, everything that can properly be done has been done, to care for the expected heavy travel over Labor Day. Several weeks ago, the regional directors were asked to give special consideration to this matter and each of them has answered that he has issued the necessary instructions and has taken steps to provide as much equipment as possible to adequately care for the travel as far as its volume can be anticipated.

The arrival, within the next two weeks, of the First and Third Army divisions from France will require a large number of cars, and there is also still a very heavy movement of discharged soldiers from camps to their homes, which takes up a great deal of space in passenger equipment, but all equipment that the Troop Movement Section can possibly spare has been assigned to the Labor Day traffic.

Arrangements have also been made to supply extra baggage men at all large centers and other points where congestion might occur. Also, extra ticket forces have been arranged.

Foreign Railway News

Internationalizing Russian Railway Property

All property in Russia belonging to the International Sleeping Car Company has been nationalized. The clerical and technical employees will be regarded as in the employ of the Soviet.

Italian Import Restrictions

A decree published in the Gazzetta Ufficiale of July 31, to take effect on August 1, abolishes all previous import restrictions, and institutes a new list for which import licenses are necessary. This list includes railway rails of iron and steel, sheet iron and steel, and railway rolling stock. (Times Trade Supplement, August 9.)

Allocation of War Locomotives in England

LONDON.

An article published by the Railway Magazine states that a considerable number of the large 2-8-0 locomotives built for War Office use, to the designs of J. G. Robinson, chief mechanical engineer of the Great Central Railway, are now being taken over by the railways in England. Thirty have already been allocated to the London & North Western, 20 to the Great Western, and a few to the Midland. All locomotives retain the Westinghouse brake.

German Locomotives in France and Belgium

LONDON.

On the signing of the armistice, Germany was required, as has been previously mentioned in the columns of the *Railway Age*, to deliver 150,000 cars and 5,000 locomotives to France and Belgium. Of the cars 80,000 went to Belgium and 70,000 to France, most of which were given to the Nord and Est railways. The locomotives were split up between the Americans, British, Belgians and French; the Americans receiving 500 locomotives, the British 1,300, the Belgians 600, and the French 2,600. The British locomotives have been turned over to the Belgians, and the 500 locomotives assigned to the American Army have been delivered to the French military authorities, which in turn will distribute them between the various railways in France and railways in other countries. Up to July 25, Poland had received 54, Roumania 14, and Czecho-Slovakia 22.

Under the terms of the Peace Treaty these German locomotives will either be bought by the countries now having them, due credit being given in payment of indemnities, or they will be returned to Germany and the indemnity money will be used to purchase new equipment.

England's Import and Export

Figures During July, 1919

LONDON.

The English Board of Trade states that the returns for July show that imports into the United Kingdom for the month were valued at £153,140,032, an increase of £44,000,794, as compared with July last year, while the exports were valued at £65,315,422, an increase of £21,671,024. The increase in the amount of re-exports was £9,735,077.

The imports of machinery during July amounted to £1,317,799, as against £850,391 in July last year, making an increase of £467,408, and the imports of railway carriages and trucks (not of iron), motor cars, cycles, carts, etc., amounted to £677,360, as against £220,734 of July, 1918, showing a decrease of £1,500,374. These figures include the cost, insurance and freight.

The value of the exports are as follows: Coal, coke and

manufactured fuel during July, 1919, £9,110,920, as against £4,658,878 during the same month last year, thus showing an increase of £4,452,042; machinery during July, 1919, £2,802,217, as against £1,436,688 during July, 1918, showing an increase of £1,365,529, and railway carriages and trucks (not of iron), motor cars, cycles, carts, etc., during July, 1919, amounted to £1,035,670, as against £341,360 during July, 1918, showing an increase of £694,310. These figures include the cost and charges of delivering the goods on board the boat.

Steam vs. Electrical Working of Locomotives

LONDON.

An abstract by the Technical Supplement of the Review of the Foreign Press from an article in the Zeitschrift des Oesterreichischen Ingenieure- und Architekten-Vereines, states that the railways of German-Austria only use about one-tenth of the entire coal consumption of the country. Details of the coal consumption are given, pointing out that with the modern superheaters the locomotive has become much more efficient than formerly. Steam locomotives are stated to work more efficiently than electric locomotives, especially where goods trains are concerned; and even in Switzerland the cost per ton-kilometer on the electric railways is often higher than on the railways worked by steam. The whole argument is to the effect that only under certain conditions will electrical working prove cheaper than steam working.

Railway Extension in Mexico

Announcement is made by the Department of Communications and Public Works of the Mexican government that the immediate resumption of construction of the division of the Kansas City, Mexico & Orient Railroad, between Falomir, state of Chihuahua, and the proposed crossing of the Rio Grande, three miles below, Presidio, Texas, has been authorized. This work was suspended in 1912. It is stated when Juan F. Trevino, representative of the Kansas City, Mexico & Orient in Mexico, brought the matter of building the line to the border, to the attention of the Mexican government he was assured that General M. M. Dieguez, military commander of the state of Chihuahua, would give ample military protection to the construction force. The distance from Falomir to the Rio Grande is 75 miles. The Kansas City, Mexico & Orient also plans to begin construction of the extension of its main line from Alpine, Texas, to the proposed crossing point below Presidio at an early date, it is announced. The filling in of these gaps will give a through rail route between Kansas City and Western Mexico, via the city of Chihuahua.

Export Abbreviations

LONDON.

Considerable trouble and unfortunate misunderstanding has arisen between some of the American exporters with importers in Australia, over the meaning of the abbreviation f. o. b. The London Times Trade Supplement, commenting on this expression, says that the accepted interpretation of this abbreviation means that goods will be placed free on board ship, and that the responsibility of the exporter does not end with placing the exported material on the ship's dock. Numerous cases have been found where this was not done by American exporters with the result that their customers in foreign lands, assuming that their goods had been placed aboard ship, were at a great disadvantage in not knowing when to expect the goods, and further that additional charges were made for dock storage. It cannot be too strongly urged that a distinct understanding be had between American exporters and their foreign customers. The exporter is in a far more convenient position to see that the goods are definitely placed on board ship and to advise his client to that effect than the client who often is thousands of miles away. Such service as this will help to make American export business attractive to foreign agents.

Railway Construction in Colombia

LONDON.

In the August 9 issue of the London Times Trade Supplement is given an account of the proposed railway extensions in Colombia together with a map, which is reproduced here, showing the existing lines, those under construction and those which are under consideration. From this map it will be noted that the lines are many and short and that there is no continuity between them. They have been built chiefly to supplement the service of the Magdalena river, which is 1,060 miles long and traverses three-fourths of the country. At the present time the Colombian government is adopting a systematic policy of railroad construction for the purpose of stimulating the national productivity, as Colombia includes some of the richest mineral and agricultural country in South America. The Times Trade Supplement describes the existing and projected lines as follows:

Of railways connecting with the Magdalena the most important are the Barranquilla and Cartagena lines, links between the river and the Atlantic; the Antioquia line from Puerto Berrio to Medellín, which, though having a 14-mile break in the mountainous region between Cisneros and Betero, taps a very prosperous part of the country; and the Girardot line from the river-port of that name to the Plain of Bogotá. The Puerto Wilches and the Ibagué (Tolima) lines are but the beginnings of railways that will, when finished, go far towards completing the systems that the government has projected for joining up the most important cities and districts of the Republic, while that from La Dorada to Beltrán is an alternative to the river, filling in the gap between the two steamboat services where they are separated by the Honda Rapids.

Among the new lines planned the most important for Colombian commerce is the extension of the Buenaventura-Cali line in a northerly direction through the Cauca Valley as far as Amaga; another line to run eastward from Cali across the Central Cordillera to join up with the Tolima line at Ibagué, will put Bogotá into direct railway communication with the Pacific; the Ferrocarril del Norte is being extended through Bucaramanga to Puerto Wilches on the Magdalena.

The completion of the latter section would greatly expedite traffic between the Atlantic coast and the capital, providing an all-rail route; but meanwhile an extension of the Ferrocarril de la Sabana, via Pacho, to the Magdalena, now under construction, will greatly relieve the present situation, obviating handlings of freight at the Honda falls, Beltrán, Girardot, and Facatativá.

Three out of the four lines indirectly connected with the Magdalena have Bogotá as their center. The Ferrocarril de la Sabana connects with the Girardot line at Facatativá, though unfortunately the two lines are of different gages, and the other two, the Ferrocarril del Norte and the Ferrocarril del Sur, run in northerly and southerly directions along the plain. The fourth line coming under this category is a short length between Medellín and Amaga, which will, when the Cauca Valley line reaches Amaga, help to form a long link between the Pacific Ocean, at Buenaventura, and the Magdalena, at Puerto Berrio.

Work on the Ferrocarril del Norte is being pushed on from Nemocón to Chiquinquirá, as a contribution towards the Puerto Wilches line, where construction has also been re-



Map of Colombia Showing Existing Railways and Proposed Extensions

sumed; the section between Girardot and Ibagué is almost completed; the Antioquia extension is rapidly proceeding to

Note.—The following table gives a list of some of the railways in Colombia with certain information regarding them as shown in the Universal

Directory of Railway Officials:

RAILWAYS IN COLOMBIA

Name of railway	Length of line		Equipment			Gage	Main offices
	Open	Under construction	Locomotives	Passenger cars	Freight cars		
Ferrocarril de Antioquia.....	168 km.	25 km.	27	50	209	3 ft.	Medellin, Colombia. Dr. Juan de la C. Posada, general manager. 39 Coleman St., London, E. C.
Barranquilla Ry. & Pier.....	17 mi.	.....	15	16	220	3 ft. 6 in.	F. Belcher, secretary. 62 London Wall, London, E. C.
Ferrocarril de Cartagena.....	106 km.	.....	8	15	112	3 ft.	F. Thomas, secretary. 9 Bishopsgate, London, E. C.
Colombian Northern	181 km.	12 km.	..	..	...	3 ft.	E. A. Green, secretary. San Jose de Cucuta, Colombia.
Ferrocarril de Cucuta.....	73 km.	.....	20	16	116	3 ft.	Alberto Camilo Suarez, president. Finbury Pavement House, London, E. C.
Ferrocarril de la Dorada.....	114 km.	.....	8	15	115	3 ft.	T. Lee C. Pilditch, managing director. Walter House, 418 Strand, London, W. C. 2.
Ferrocarril de Girardot.....	132 km.	.....	17	32	126	3 ft.	John Wharton, secretary. 130 Dashwood House, New Broad St., London, E. C.
Great Northern Central.....	500 km.	154 km.	..	..	...	1 meter	William Chaplin, secretary. Apartado de Correos No. 127, Bogotá, Colombia.
Ferrocarril de la Sabana.....	40 km.	.....	15	40	82	1 meter	Alejandro M. Olivares, general manager. 57½ Old Broad St., London, E. C. 2.
Santa Marta	99 mi.	.....	20	17	287	3 ft.	Thos. Bolter, secretary.

Caldas; the Cucuta line will, in all probability, be extended to Bucaramanga to link with the Puerto Wilches and Norte lines; and the long-discussed extension of the Santa Marta line to the Magdalena, at El Banco, is seriously projected. If, as has been again reported, the United States now intends to make the compensatory payment of £5,000,000 offered to Colombia in 1914 but delayed by Congress, a considerable sum will be available for construction work. British engineers and manufacturers of construction and railway machinery should look to their laurels in this connection.

British engineering, and investment in transport facilities in Colombia are of importance and old standing. The Barranquilla and the Cartagena lines are both British built and owned; the Santa Marta line, the original Cauca railway, the Puerto Wilches, the La Dorada, and the Girardot lines, the Ferrocarril del Norte, the harbor works at Puerto Colombia, and Barranquilla are included in the lists of British construction and capital in Colombia. The Colombian government has of late developed its policy of national or departmental ownership and construction of public services.

Profits of Colonial Railways

An article published by the *Zeitung des Vereins Deutscher Eisenbahnverwaltungen* and abstracted by the Technical Supplement of the Review of the Foreign Press, gives a comparison of profits earned by a number of colonial railways. The Congo railway from Matadi to Leopoldville is 400 km. long with a gage of 2 ft. 5½ in., and was opened in 1898, the average profits between that date and 1912 being 9.7 per cent. In 1912 the company paid 22½ per cent and in 1913, 19 per cent. The Delagoa Bay railway from Lourenzo Marques to Garcia in the Mozambique is 89 km. long, and was opened in 1890. The interest on the capital in 1901 was 15.2 per cent, and in 1910, 55.47 per cent. The author states that Great Britain endeavored to obtain possession of the line owing to the enormous profits, and compares with these profits the dividend earned by the Uganda railway, which was 3.52 per cent in 1912, and 5.98 per cent in 1917.

The Otavi railway in German Southwest Africa is 671 km. long with a gage of 2 ft., was opened in November, 1906, and paid an average dividend of 11.7 per cent after being bought by the state. The Dutch line in Java paid 6.12 per cent in 1914.

These figures, the author says, prove how profitable such colonial railways are.

Locomotive Building in France

Some interesting figures showing the effect of the war on the locomotives of the French railways were recently given in the *Journal des Transports*. At the beginning of the war, apart from the railway shops, there were six locomotive building plants in France, of which four were in the invaded zone. Their average annual output was 650 new locomotives, while the railway shops turned out another 50, and as the average annual needs of the French railways were only 575, a balance was constantly available for export, of which the bulk went to Algeria and the French colonies. An average of about 1,570 locomotives underwent repairs every year. One effect of the war was greatly to diminish the possibilities for repair work, with the result that at the beginning of 1918, 2,336 locomotives were "immobilized." New construction also fell off, so that while the Paris, Lyons & Mediterranean should have received 337 locomotives in 1914 and 1915 which were ordered before the war, only 75 were delivered up to the end of 1916. In 1917, 660 locomotives were ordered from the United States and 170 from England, of the Consolidation, Mikado and Pacific types, of which the last should have been delivered by January 1, 1919. The prices were 125 per cent higher than the pre-war quotations; 1,412 locomotives were also lent by the Allies during the war, which helped towards making good the deficiency in new construction between 1914 and 1917 amounting to 1,725 engines. The French railways received a portion of the 5,000 locomotives surrendered by Germany under the armistice terms, and it is hoped that with the reconstruction of the shops in the invaded districts the annual output will eventually amount to from 800 to 1,000 locomotives.

Another Opportunity for Americans Missed in China—Other Chinese Correspondence

PEKING.

The past month marks the missing of two more opportunities for American capital in China due to the absence of a financial agent with power to act—if symptoms are to be trusted. A certain harbor site in North China has been known for some time to be quite essential to the development of a dormant American railway project. A Chinese capitalist who seemed to be able to secure development privileges approached American interests for mutual support. While negotiations were under way, a Sino-Japanese company was formed and apparently has secured the privileges. In a similar way a certain European firm which has started the construction of a considerable line was known to be courting American support. This courtship has ceased, and the issuance of passports to 55 Japanese to travel through the province served by the proposed line seems to offer the explanation.

* * *

Dr. Yen Teh-ching, a graduate engineer from Cornell '06, has been appointed successor to the late Dr. Jeme Tien-yu as managing director of the Hukuang lines now under construction. (The Hukuang lines embrace not only the Canton-Hankow but also the Hankow-Ichang section of the line into Szechuan.)

* * *

The Southern military government of China has given permission for the construction of three railways by private enterprise. One line will run from Canton to Macao, another from Swatow to Changlin, and the third will be a branch line of the privately owned Sinning line, and will run from Sinning to Paishaho. All of these lines are short and will require altogether not more than \$3,000,000.

* * *

The Ministry of Communications, it is understood, has given sanction to a private company to build an extension to the Mentoukou branch of the Peking Suiyuan line to tap another coal deposit in the Western Hills. The line will not be more than nine or ten miles long but the route to be followed is that frequently mentioned as offering the best grades to the Mongolian plateau. At present the Nankow Pass presents a grade of three and one-half per cent for the Peking Suiyuan to surmount, which will have to be rectified if business ever develops over that route.

* * *

In spite of reported Japanese opposition and an interpellation from Parliament as to why he had not been discharged, the Ministry of Communications has renewed its contract with the American adviser, J. E. Baker, for another year. This is probably not to be construed as favorable to the general unification of Chinese railways, for promoting which Mr. Baker encountered so much opposition, but rather a disposition to temporize. Discussion upon the unification subject has again come to the fore in connection with the reported deliberations of the Consortium. The Japanese press in China and the Chinese militaristic press contain from day to day articles in identical language in opposition to the Consortium as being synonymous with unification.

* * *

Delivery has begun of 500 goods wagons purchased in America by the Peking Mukden line. The Peking Hankow line has purchased ten ten-wheel locomotives from a Belgian firm, delivery promised in ten months.

* * *

Dr. Hirai, Japanese, general adviser on railway affairs to the Ministry of Communications, has signified his intention to resign shortly on account of ill health. He will be succeeded, so it is reported, by a Dr. Okada.

* * *

The Peking Hankow and the Peking Suiyuan, the only remaining lines upon which the depreciated Peking notes of the Bank of China and the Bank of Communications are accepted, have given notice that after July 25 these notes will no longer be accepted in payment of interline fares or baggage charges. This probably marks the beginning of the end for the depreciated note in railway revenues.

Equipment and Supplies

Equipment Inquiry from Belgium

The Wall Street Journal is authority for the statement that Belgium is inquiring for 400 locomotives and 20,000 freight cars. But equipment manufacturers, it says, are frank to admit that there is little chance of the business being accepted at this time since Belgium wants long-term credits covering the delivery of the order.

Locomotive Deliveries Week Ended August 9

The following new locomotives were shipped during the week ended August 9:

Works	Road	Number	Type
American	N. C. & St. L.	4	USRA Mount.
	Vgn.	1	USRA Mallet.
		5	
Baldwin	P. L. W.	4	Santa Fe.
	At. & S. F.	6	Santa Fe.
	P. L. W.	7	USRA S. F.
	T. & P.	4	USRA Mik.
	C. & O.	1	USRA Mallet.
	P. & R.	1	Mallet.
	N. & W.	1	Mallet.
		24	
Total		29	

Locomotives

THE PENNSYLVANIA EQUIPMENT COMPANY, 1420 Chestnut street, Philadelphia, is in the market for one second-hand, 30 to 50-ton four-wheel or six-wheel saddle tank locomotive; must be in first class condition.

Freight Cars

WILSON & COMPANY, Chicago, is inquiring for 200 refrigerator cars.

JOHN R. WALSH has ordered three 8,050-gal. tank cars from the Pennsylvania Tank Car Company.

THE WASHINGTON, IDAHO & MONTANA RAILWAY, Potlatch, Idaho, is inquiring for 20 40-ton flat cars.

THE COMMERCIAL CAR LINE has ordered 25 8,050-gal. tank cars from the Pennsylvania Tank Car Company.

THE BOLENE REFINING COMPANY has ordered 25 8,050-gal. tank cars from the Pennsylvania Tank Car Company.

THE WILHOIT REFINING COMPANY has ordered six 8,050-gal. tank cars from the Pennsylvania Tank Car Company.

THE MEXICAN PETROLEUM COMPANY, New York, has ordered 600 10,000-gal. tank cars from the American Car & Foundry Co.

THE OHIO CITY GAS COMPANY, Columbus, Ohio, has ordered 200 8,000-gal. tank cars from the American Car & Foundry Co.

THE LIVINGSTON REFINING COMPANY has ordered 20 8,050-gal. and 80 10,050-gal. tank cars from the Pennsylvania Tank Car Company.

THE WHITE EAGLE OIL & REFINING COMPANY, Wichita, Kan., has ordered 20 8,000-gal. and 30 10,000-gal. tank cars from the American Car & Foundry Company.

THE UNITED STATES RAILROAD ADMINISTRATION is inquiring for 500 to 1,000 55-ton steel hopper car bodies and from 500 to 1,000 50-ton composite gondola car bodies.

THE PENNSYLVANIA EQUIPMENT COMPANY, 1420 Chestnut street, Philadelphia, is in the market to lease for one year 100 to 200 tank cars of 8,000 to 10,000-gal. capacity for crude oil service.

Supply Trade News

The Chicago Railway Equipment Company, Chicago, is completing plans for the reconstruction of that part of its plant damaged by fire on August 2. About \$25,000 will be expended on the work.

The Schroeder Headlight & Generator Company, Evansville, Ind., has appointed S. Herbert Lanyon as its representative on the Pacific coast, with office at 507 New Call building, San Francisco, Cal.

T. L. Dodd & Co., Railway Exchange building, Chicago, have been appointed western sales representatives of the Worth Steel Company, Claymont, Del., manufacturer of fire box steel plates, boiler and tank plates.

The Goulds Manufacturing Company, Seneca Falls, N. Y., will open a district sales office in the Dime Bank Building, Detroit, Mich., on September 1, in charge of E. B. Gould, who has recently returned from 18 months' service in France.

E. L. Ruby, railway supply agent in the Real Estate Trust building, Philadelphia, Pa., has taken over the manufacture and sale of the Hilliard portable milling machine, a device designed to mill stock rails for housing in switch points, previously manufactured by the Hilliard Portable Milling Machine Company, Oil City, Pa.

The Ryan Car Company, Chicago, is constructing an all-steel, steel car plant 90 ft. by 600 ft., upon a recently acquired 50 acre tract one-half mile east of its old plant at Hegewisch, Ill. In addition to the main plant three smaller buildings are being constructed. It is expected that operation will begin in the fall. The approximate cost of the new buildings with new equipment will be \$350,000.

E. H. Bull, for the past seven years in the engineering department of the Green Engineering Company, East Chicago, Ind., and D. A. Livensparger, for nine years in the sales department of the same company, have taken over the Chicago sales office of the Green Engineering Company, as sales representatives, handling Green chain grate stokers, sealflex arches, steam jet ash conveyors and cast iron ash tanks.

The American Steam Conveyor Corporation, Chicago, announces the appointment of Morton McI. Dukehart & Co. as its representative in Baltimore, Md., and surrounding territory, including all of Maryland, the District of Columbia, and a few counties in Pennsylvania, Delaware, West Virginia and Virginia. This firm consists of Mr. Dukehart and E. S. Denise, both power plant engineers and sales engineers.

Charles W. McKay is now in charge of the appraisal division of L. V. Estes, Inc., industrial engineers, Chicago. The appraisal division specializes in the appraisement of industrial properties for federal income tax purposes and in the appraisement of public utility properties in connection with rate cases. Mr. McKay is the author of "Valuing Industrial Properties," published in 1918, and of a book entitled "Telephone Rates and Values," to be published on or about September 1.

Henry R. Moore, general traffic manager of the Republic Iron & Steel Company, Youngstown, Ohio, died suddenly on August 8, at the Youngstown Country Club. Mr. Moore was born at Warrensville, Ohio, in February, 1856. Prior to entering the employ of the Republic Iron & Steel Company 20 years ago he was general freight and passenger agent of the Lakeside & Marblehead and general freight agent of the Cleveland, Canton & Southern, with offices at Cleveland. During the war he was chairman of the committee which supervised freight movement in the Youngstown district.

The American Construction Company, St. Louis, Mo., has been organized under the laws of Arkansas with an authorized capital of \$250,000 and with the following officers: **F. W. Fordyce**, chairman of the board; **Charles H. Sommer**, president; **George Moldenschart**, secretary; **W. V. Delahunt**, treasurer. The new company will construct an extension of the Fort Smith, Subiaco & Rock Island, formerly the Fort Smith, Subiaco & Eastern, which road had been in receivership for some time and was purchased by other interests who will complete the line between Paris, Ark., and Dardanelle.

On August 1, the promotion and inspection bureaus of the **Universal Portland Cement Company**, Chicago, were combined under the name of service bureau. **J. H. Libberton**, formerly engineer, promotion bureau, an inspecting engineer, in the general offices at Chicago, became manager of the service bureau; **G. E. Warren** was appointed assistant manager; **J. W. Lowell**, eastern manager, Pittsburgh; **J. H. Chubb**, northwestern manager, Minneapolis; and **O. L. Moore**, chief cement inspector, Chicago. The two bureaus which were combined formerly had separate and distinct duties, the promotion bureau handling special service and furnishing of information to cement users and the inspection bureau having charge of the physical testing at the mills.

George Hull Porter, who has been in charge of sales in the middle west, for the **Western Electric Company, Inc.**, New York, has been appointed railway sales manager and will direct the company's railway business for the entire country. Mr. Porter will continue to have his headquarters at Chicago. He was born on July 30, 1883, at Danbury, Conn., and received his education at the Mount Pleasant Military Academy, at Ossining, N. Y. Since 1902 he has spent practically all of his time in the electrical industries, becoming a member of the Western Electric Company's organization in April, 1908, as a steam railway salesman connected with the Chicago office. Some time after that he became western manager of the railway sales department. Mr. Porter, in addition to becoming president of various railroad and electrical associations and chairman of civic societies and committees, has also been for some time captain in the First Regiment of the Illinois Reserve Militia. In 1918, he entered the government service, serving on the staff of the quartermaster general as a private and received a commission of captain sometime after. He rejoined the ranks of the Western Electric Company in December, 1918.



G. H. Porter

The **Detroit Seamless Steel Tubes Company** has begun construction of a \$3,000,000 plant on a 60-acre tract at Detroit, Mich. The first unit of the plant will cost \$1,000,000 and will be completed by January 1, 1920. The building plans call for a structure of steel and glass with brick and concrete facing. The plant proper will occupy a space of 350 ft. by 700 ft. It will consist of three bays for manufacturing units, a separate heating plant and a two-story administration building. The three manufacturing units will be each 90 ft. wide, by 700 ft. and 550 ft. long and 45 ft. high, to permit the use of traveling cranes and other labor saving machinery. The interior layout and special tube mill machinery was designed under the direction of **C. A. Ross**, consulting mechanical engineer, and **C. L. Stafford**, mill superintendent. The plant will be equipped with the latest types of modern labor saving devices and machines, and a powdered coal system will be used for all the heating and annealing processes

used in manufacturing operations. The total capacity of the first unit of the new plant will be 2,500 tons of seamless steel tubing a month, the range of sizes being from one-half inch to six inches outside diameter, and No. 13 gage and heavier.

American Car & Foundry Company

The directors of the American Car & Foundry Company, New York, having recently abolished the office of general manager, **James M. Buick**, formerly vice-president and general manager, has assumed the direction of the sales division of the company and will be known as vice-president in charge of sales.

The production division will be directed by **William C. Dickerman**, who will be known as vice-president in charge of operations. He will be assisted by **Frederick A. Stevenson**, as assistant vice-president in charge of operations, who will be head of the manufacturing section and have charge of production in the car plants, rolling mills and foundries, also supervision over the engineering, improvement and research, patent and industrial relations sections. The headquarters of both divisions will be at the general offices, 165 Broadway, New York. Mr. Dickerman, as head of the war division, and Mr. Stevenson, as his assistant, directed the company's recent program in the manufacture of munitions for the government of the United States and its allies.

William Carter Dickerman was born on December 12, 1874, at Bethlehem, Pa. After a preparatory course at William Penn Charter School, Philadelphia, he was graduated from Lehigh University in 1896, with the degree of mechanical engineer. Mr. Dickerman entered the employ of the Milton Car Works, Milton, Pa., in 1897, and when the American Car & Foundry Company was organized he was made assistant district manager for the Milton district. In 1900 he became sales agent of the company and in 1905 was elected to the vice-presidency.

Frederick Alfred Stevenson was born on April 6, 1880, at Detroit, Mich. After completing the high school course, he entered the employ of the American Car & Foundry Company in 1899, as an apprentice in the machine shop at the Detroit plant. In 1902 he was transferred to the Berwick plant and served as master mechanic in charge of all mechanical work in the steel car department, and in 1907 he returned to Detroit to assume a similar position in the company's plant. In 1909 he entered the assistant general manager's department at Chicago and carried on the development of new ideas and methods until October, 1910, when he became assistant general superintendent of the Detroit plant. In 1912 Mr. Stevenson was made general superintendent at Detroit and held this position until January, 1916, when he was appointed assistant general manager.



W. C. Dickerman



F. A. Stevenson

Financial and Construction

Railway Financial News

BROOKLYN RAPID TRANSIT.—A group consisting of the Chase Securities Corporation, the Bankers Trust Company, the Central Union Trust Company, J. & W. Seligman & Co., and Hayden, Stone & Co. have purchased \$18,000,000 six per cent, two-year certificates from Receiver Lindley M. Garrison. The certificates are dated August 1, 1919, and are being sold privately at 98 and interest.

Judge Julius M. Mayer, in the Federal District Court of New York, has made permanent the appointment of Receiver Lindley M. Garrison.

CHICAGO & WESTERN INDIANA.—In announcing the offer of this company to extend \$15,000,000, 6 per cent notes, maturing September 1, 1919, for one year at 7 per cent, President E. H. Lee states that the company has entered into a contract with the United States Railroad Administration fixing annual compensation sufficient to pay all present fixed charges and taxes, including the sinking funds on the bonds deposited as security for the notes, and also including 7 per cent interest on said notes for the ensuing year, if federal control shall continue that long. Interest and sinking fund requirements on the collateral bonds are also provided for by rentals, payable directly to the mortgage trustees by other railroad companies for the use of its lines and terminal facilities.

GEORGIA COAST & PIEDMONT.—This road will be offered for sale for the third time in Brunswick, Ga., on October 7.

ROANOKE RIVER.—This road, extending 12 miles from Manson, N. C., to Townsville, was sold at auction on July 26 for \$70,000 to J. R. Paschall of Richmond, Va., the principal owner. The property will be turned over to the railroad trustees for Townsville township upon certain terms agreed upon. The Townsville Railroad has been incorporated and organized to operate the line, and the township has voted \$75,000 bonds to subscribe to its stock. Equipment is to be secured and the line again put in operation.

Railway Construction

FORT SMITH, SUBIACO & ROCK ISLAND.—The American Construction Company, St. Louis, Mo., has been awarded a contract for the construction of an extension of this line between Paris, Ark., and Dardanelle, a distance of 30 miles. The line will connect at Dardanelle with the Chicago, Rock Island & Pacific and at Paris with the Arkansas Central and will provide a through line from Fort Smith, Ark., to the Chicago, Rock Island & Pacific main line at Ola, Ark., opening up new territory for traffic moving to the southwest via Little Rock, Ark. A contract for the grading, bridging and track laying has been let to the P. J. Hannan Construction Company of St. Louis and this work was started during the latter part of August. There will be considerable heavy grading, especially where the line crosses the mountains at Hays Creek, Ark., and Shoal Creek, where there is considerable solid rock. The line will be laid with 70 lb. steel rails. It is expected it will be open for traffic about January 1, 1920.

PANHANDLE SHORT LINE RAILWAY.—A charter has been submitted, in the name of the Panhandle Short Line Railway Company, to the attorney general's department of Texas. This road contemplates building a line from Dalhart, Tex., to Lubbock, a distance of 200 miles.

PORTLAND & SOUTHEASTERN.—This company, which was incorporated recently with a capital stock of \$2,000,000 with headquarters in the Spaulding building, Portland, Ore., plans to build a railroad from Portland's southeastern boundary through Waldo Hills, Ore., and Santiam to Bend.

Railway Officers

Railroad Administration

Regional

F. E. Dewey has been appointed general assistant to Percy R. Todd, director of the New England district of the Eastern Region, with office at Boston, Mass., not F. E. Desey as was incorrectly reported in our issue of August 22, on page 384.

A regional committee on loss and damage freight claims has been organized in the Southwestern region with the following personnel: **W. G. Vollmer**, assistant regional director, chairman; **H. M. Adams**, traffic assistant; **C. G. Weinbrenner**, inspector in the Secret Service and Police Section; and **R. B. Williamson**, at large.

Operating

W. H. Merritt, in addition to the duties heretofore assigned to him, has been appointed assistant to **W. D. Duke**, federal manager, of the Richmond, Fredericksburg & Potomac, the Washington Southern and the Richmond Terminal Railroad, with headquarters at Richmond, Va.

Captain W. E. Ausman, formerly trainmaster of the Cherokee, Sioux Falls and Onawa districts of the Illinois Central with headquarters at Cherokee, Iowa, has received his discharge from military service and has been re-appointed to his former position, succeeding **I. L. Anderson**, who has been assigned to other duties.

Engineering and Rolling Stock

The positions of district engineer on the Cleveland, Cincinnati, Chicago & St. Louis, at Galion, O., and at Springfield have been abolished; **W. C. Kegler**, district engineer at Galion, has resumed his duties as engineer maintenance of way on the Cleveland-Indianapolis division, with headquarters at Galion, vice **J. E. Kissell**, who has resumed his duties as engineer maintenance of way on the Cairo division, with headquarters at Mt. Carmel, in place of **E. J. Bayer**; **W. S. Burnett**, district engineer, at Springfield, O., has resumed his duties as engineer maintenance of way on the Cincinnati-Sandusky division, with headquarters at the same place, vice **L. B. Elliott**, who has been transferred as acting engineer maintenance of way to the Peoria & Eastern division, with headquarters at Indianapolis, and **C. F. Hinchman**, who has returned from military service, has resumed his position as engineer maintenance of way on the Indianapolis Terminal division, with headquarters at Indianapolis, vice **N. L. Arbuckle**.

Purchasing

W. A. Miller has been appointed division storekeeper on the Southern Railroad, with office at Spencer, N. C., vice **C. J. Norman**, deceased.

Corporate

Executive, Financial, Legal and Accounting

E. N. Brown, chairman of the board and president of the Pere Marquette Railway, with headquarters at New York, has been elected also chairman of the board and president of the St. Louis-San Francisco Railway, succeeding **Henry Ruhlender**, resigned.

Traffic

W. E. Hellmuth has been appointed traffic manager of the Colorado Springs & Cripple Creek District Railway, with headquarters at Colorado Springs, Colo.

A. T. Weldon, assistant freight traffic manager on the Canadian National Railways, at Moncton, N. B., with jurisdiction in the maritime provinces, has had his jurisdiction extended to include all lines east of but not including Port Arthur and Armstrong, Ont., and his headquarters are now at Montreal, Que.; **M. F. Tompkins**, assistant general freight agent at Moncton, N. B., has been promoted to general freight agent, with jurisdiction over lines Matapedia, Que., Edmundston, N. B., and east thereof, with office at Moncton.

Operating

W. J. Stinson, assistant superintendent of the Trenton division of the Canadian Pacific, with headquarters at Trenton, Ont., has been transferred to Havelock, Ont., succeeding **R. de L. B. Girouard**, who has been transferred.

R. A. Sewell, who has been appointed superintendent of car service, on the eastern lines of the Canadian Pacific, with headquarters at Montreal, Que., as has already been announced in these columns, began railroad work on the Canadian Pacific in December, 1898, as an operator and dispatcher, resigning from that position in March, 1912. He returned to the service of the Canadian Pacific in July, 1914, as agent and chief dispatcher. In October, 1918, he was appointed assistant superintendent at the Montreal Terminal, which position he held until his recent appointment as superintendent of car service on the eastern lines of the same road, with headquarters at Montreal, as above noted.



R. A. Sewell

Engineering and Rolling Stock

T. C. Fischer, office engineer of the Central Railroad Company of New Jersey, with headquarters at New York, has been appointed corporate engineer, with the same headquarters.

C. S. Ogilvie, assistant engineer on the Grand Trunk, at Ottawa, Ont., has been transferred to the Montreal Division, with headquarters at Montreal, Que., vice **C. Murgatroyd**, resigned.

Purchasing

F. A. Hamilton has been appointed purchasing agent of the Colorado Springs & Cripple Creek District Railway, with headquarters at Colorado Springs, Colo.

Obituary

Henry Hammersley, formerly and for many years previous to 1916, local treasurer of the New York, Chicago & St. Louis at Cleveland, Ohio, died on August 20, at his home in New York, at the age of 77.

W. H. Watkins, master mechanic of the Illinois Central with office at Memphis, Tenn., who was granted a leave of absence in the early part of this year, died at his home in Memphis on August 22, at the age of 50.

George J. Duffey, superintendent of motive power of the Lake Erie & Western, with headquarters at Lima, Ohio, died at his home in that city on August 16. He was born at Clinton, Ont., Canada, on May 24, 1863, and began railway work as an apprentice on the Michigan Central at St. Thomas, Ont., and served later as roundhouse foreman and general foreman on that road. In 1907, he left the service of the

Michigan Central to go to the Chicago, Indiana & Southern, as general foreman at Gibson, Ind. On June 1, 1908, he was appointed superintendent of shops of the Lake Erie & Western, at Lima, Ohio; on November 1, 1903, was promoted to assistant master mechanic, and in March, 1911, was again promoted to master mechanic. Since January 1, 1916, he served as superintendent of motive power on the same road.

Theodore Cooper, for many years a consulting engineer in New York City and an authority on iron and steel construction, who retired from active work about 10 years ago,

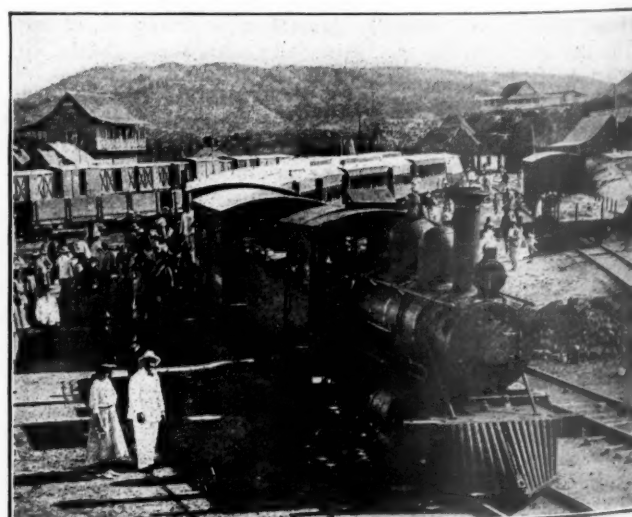
died on August 24, at his home in New York City, after a week's illness of pneumonia. Mr. Cooper was born on January 12, 1839, at Cooper's Plains, N. Y., and was graduated from Rensselaer Polytechnic Institute, Troy, N. Y., in 1858. He served as an engineering officer in the United States Navy from 1861 to 1872 and part of this time, from 1865 to 1868, was assistant professor at the Naval Academy. In 1872, with Captain James B. Eads; he was in charge of the manufacture and construction of the St. Louis



T. Cooper

bridge, later serving as resident engineer in charge of its erection. After its completion he served as engineer and superintendent. He was subsequently superintendent of the Delaware Bridge Company's shops and then assistant general manager and superintendent of the Keystone Bridge Company. Mr. Cooper was assistant engineer in charge of construction of the first elevated railroads in New York City. Since 1879, until his retirement, he was in practice as a consulting engineer in New York City and designed many important bridges, aqueducts, buildings and railroad shops. He was also consulting engineer for many railroads in the United States, Mexico and Japan and for the New York Public Library and the Quebec Bridge over the St. Lawrence river. He was the author of Cooper's Specifications for the Superstructure of Railroad and Highway Bridges; also many papers on engineering subjects.

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Scenes from Foreign Ports—Train Arriving at Puerto Colombia, Colombia

EDITORIAL

Railway Age

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There is no question but that a railroad could be managed more effectively if it was all located at one place instead of being spread over several states. The scattered condition of railroad property is a special handicap in handling maintenance of way work and other activities not directly associated with the conduct of transportation. Many widely separated operations are not readily administered, while any attempt at concentration introduces transportation charges. In scrap reclamation the expense of hauling the worn out appliances to the plant and the renewed parts back again must always be watched carefully. In the case of rail re-sawing this consideration has resulted in the development of portable plants mounted on cars so that the sawing may be done at or near the place where the rail is taken up. The latest development of this kind is a portable creosoting plant now in use on the Pennsylvania Railroad and described on another page of this issue. While many reasons may be given to argue the greater economy of a stationary plant, the transportation charges which arise on some roads in the backhaul of ties that are to be placed in tracks near the point of tie production, but at a distance from the treating plant, constitute an ample justification for this endeavor to overcome them.

Taking the Mountain to Mohammed

In strong contrast to the general condition of unrest and suspicion in the industrial world is the action taken by the representatives of the employees of the Midvale Steel & Ordnance Company, the Cambria Steel Company and subsidiary companies in session at Atlantic City August 22 and 23, in adopting a resolution condemning the persistent demands of workmen generally for shorter hours and higher wages. The resolution states that "the high cost of living needs to be abated by diligent, efficient and conscientious labor, by thrift, and by avoidance of waste and extravagance," and that "the price of commodities is regulated by the day's work of a man and the real unit of value or unit of compensation is not a dollar but the purchasing power of a dollar," which is regulated by the average compensation for one hour's work received by all who labor. The resolution further states that "we believe any workman who demands a greater proportionate return for his labor than his fellow workmen in other lines are getting is as guilty of profiteering as a grocer who charges exorbitant prices for the necessities of life." It is worthy of note and highly encouraging that the representatives duly elected by the great body of employees in the various plants of the Midvale and Cambria companies, numbering some 30,000, have so sound an understanding of the fundamental necessities for the improvement of the present unsatisfactory economic conditions. The pertinent fact in this connection is that the Midvale employees are organized under what has been designated as the shop committee system for collective bargaining and consideration of grievances and working conditions with the local and general managements of the company, an organization which tends to promote open dealings and mutual freedom from suspicion. It is a question whether the great mass of workers in the country at large are not as sound in their estimate of the situation as the Midvale em-

A Sane Attitude on the Wage Question

ployees, the difference in expression being due largely to the general feeling of suspicion between wage earners and employers, which apparently does not exist in the relations of the Midvale company and its employees.

For many years prior to federal control railway managers were criticized with some justice for yielding to the pressure of organized labor with respect both to rates of pay and working conditions, while largely ignoring similar claims of equally or more deserving employees in maintenance of way, clerical and station service who had formed no organizations to represent them. In partial defense of the managers it must be admitted that the continually narrowing margin of net income left them in the position of having little to divide after submitting to the demands of the organizations. However, this did not remove the element of unfairness resulting from the increasing disparity in wages. It was then contended by certain advocates of government ownership that such inequalities would not exist if the government was to assume charge of the roads, because it would have no incentive to deal other than fairly with all employees. Yet after nearly two years of federal control and operation, we find some inequalities as bad as or worse than any that existed before. Today a laborer in a car repair yard receives 58 cents an hour with time and a half after eight hours, while a section foreman receives only about 50 cents an hour with straight time up to ten hours and time and one half only after that period. On the basis of a 10-hour day and 26 days per month the car repair laborer actually receives 25 per cent more wages than the section foreman. He has no responsibility beyond that of his immediate duties as a workman in a gang, while the foreman is responsible for the work of a force of men and for the safety of travel on several miles of main line. It is because of this situation that there is more dissatisfaction and unrest among maintenance of way employees today than ever before. It is also because of this fact that these men are organizing to an extent never before attempted and are taking a strike vote as a means of enforcing their demands. It is fully as difficult to secure equity in the matter of wages under government as under private operation.

Justice to the Unorganized Employee

For the past 19 years the mileage of automatic block signals on the railroads of the United States has increased steadily. During that time approximately 37,000 miles of road have been equipped with such signals. In 1901 only about 2,000 miles of road was protected in that manner. During the next six years the annual average rate of increase was about 800 miles, but, following the depression of 1907, it is interesting to note the extraordinary advance in the application of automatic block signals which was so marked that it almost amounted to a boom. During 1907 alone more than five times the previous annual average increase was recorded, while for the six years beginning with 1907 the average annual rate of increase was approximately 2,500 miles of road, or more than three times that during the preceding

Progress of Automatic Block Signals

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